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Hearing As Seeing:

Investigating the Relationship Between What We See And What We Hear

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Hearing As Seeing:

Investigating the Relationship Between What We See And What We Hear

by

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Thesis

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Master of Fine Arts

The University of Texas at Austin

May 2020

Dedication

For the teachers and mentors who paved my way:

Jason, Bill, Karen, Richard, Susan, Michelle, Sven, Mara, and Annie;

Rebecca, Scott, and David;

Don, Sarah, George, Andrew, Jerry, Candace, Rick, and Kristi;

Suzie, Steve, Robb, Jay, Brandon, Jes, Tim, Ciera, and Geeg;

Katherine, Pat, Hannah, Jason, Steve, Susan, Eia, Joey, Mara, and Robin;

Hillary, Karen, and Mary;

Lydia and Louise;

and many others.

Acknowledgements

Many thanks…

To my committee: Bill Bloodgood, Jason Buchanan, and Richard Isackes.

To those who mused with me: Robert DeSimone on opera, Liz Gruchala-Gilbert on research, Linda Henderson on Kandinsky's ideas, Sam Lipman on composition, Karen Maness on thinking big, Gesel Mason on choreography, and Carolina Perez on sound.

To my research support team: Megan Alrutz for getting the ball rolling and Katie Dawson for answering my many questions.

To those who made Hearing As Seeing happen: composer Michael Zapruder, sound designer Jessica Sell, graphic designer Khristián Méndez Aguirre, the UT Theatre and Dance Staff, and the UT Theatre and Dance graduate students and faculty.

To the "Hearing As Seeing" artists, who freely gave their time, materials, expertise, and critical thinking: David Bjurstrom, Jason Buchanan, CC Calloway, Stephanie Copenhaver, Emma Seay Craig, Jesse Easdon, Jordan Gerow, Camie Goodman, Kelly Kassir, Richard Lorig, Khristián Méndez Aguirre, Erin Miller, Sarah Mosher, Amy Paine, John Pleau, Sarah Rahaeuser, Logan Smith, Maia Snow, Annie Ulrich, Megan Williamson, and Javier Yep.

To my friends, who have listened to my ramblings for years.

To my family, for all that and more.

Abstract

Hearing As Seeing:

Investigating the Relationship Between What We See

And What We Hear

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The University of Texas at Austin, 2020

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This paper focuses on the relationship between auditory and visual elements, exploring the way in which intentional incorporation of music influences visual artists and designers' practice. Theatrical design programs teach students how to read a text and interpret the story told by the words on the page. The words may communicate much of the story, but by the time the production reaches the audience, many other elements join in: scenery, costumes, lighting, media, and sound. If these elements do not work together, they can create a cacophony instead of clarifying the narrative. Rather than competing with the words, visual and auditory elements should work together to tell the story cohesively. Inspired by the nebulous relationship between sight and sound, I researched historical, scientific, and artistic interpretations of this relationship. The information I gathered, presented in context with my personal reflections on the use of music as inspiration for visual design, led to the creation of a thesis in two parts: an art exhibition within a reflexive

research project. The art exhibition, titled “Hearing As Seeing,” investigates the question, “What is the relationship between what we see and what we hear?” The research project employs action research by inviting the artists and designers who participated in the exhibition to investigate the question, “How might the intentional incorporation of music affect the process of creating visual art?”

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Chapter 1: Introduction

I have always been fascinated with music. Several crystal clear memories from my childhood spring to mind when thinking about why this might be: playing a timpani roll as my middle school band crescendoed together, watching my dementia-ridden great-grandmother plunk out hymns on her old piano, belting out "Seymour's your man!" with a full cast singing backup, and the list goes on. But why *music*? I came across this quote from professor and psychiatrist Iain McGilchrist, which I felt was an answer to this question:

> There is not culture anywhere in the world that does not have music… performance of music plays both an integral, and an integrative, role not only in celebration, religious festivals, and other rituals, but also in daily work and recreation; and it is above all a shared performance, not just something we listen to passively. It has a vital way of binding people together, helping them to be aware of shared humanity, shared feelings and experiences, and actively drawing them together. (104)

I suppose I am fascinated with music because it requires being in tune and in rhythm with others, and because there is something spiritual about music, allowing me to connect with melody and cadence on a deeper level. If McGilchrist is right, music transcends the boundaries of language and culture. It is with this in mind that I approach this project.

In fifth grade, my choir teacher cast me as Jim Hawkins in our musical production of *Treasure Island*, effectively bridging the gap from music to musical theatre. Soon, I found myself wandering deeper into theatrical practice and falling in love with the way theatre ties so many art forms together to tell a single story. Not only do we use music, but also lighting, costumes, scenery, props, blocking, dance—and blend it all up into theatre. Through high school, I began to explore many of these different elements of theatre by

acting, stage managing, and designing productions. In college, I began seriously studying theatrical design, and this led me to pursue an MFA with a focus in scenic design.

Usually, designers learn to begin their process by reading a playscript, and the playwright's words supposedly offer the information needed to design the play. Textbooks such as *Scene Design and Stage Lighting* by designer/professors R. Craig Wolf and Dick Block explain that the traditional theatrical design process consists of "provid[ing] a physical, visual, and aural world for the play… by responding to the text" (2). Within the text, we discover the playwright's story, which is why "a major portion of a designer's training for the theatre is spent learning to interpret the ideas of the playwright… this can't be overemphasized because it is the basis for all design in the theatre—finding a way to tell the playwright's story" (2). In my design education, I have also been taught to start a design by reading the words on the page.

Given my musical upbringing, it seems natural that I wanted to know whether I could make use of my knowledge about music in my new, specifically *visual* world of scenic design. So, how does music fit into such a language-based process? Wolf and Block briefly mention this in the introduction to their textbook, stating that there are forms such as "opera, book musicals, and revues, in which music tells part of the story; and ballet and modern dance, in which sight and sound, rather than the spoken word, matter most" (2). They expand on these ideas in a later section about the design process. Wolf and Block suggest that designers of straight plays might surround themselves "with images that are inspiring or music that is part of the play" in order to "get into 'the world' of the play" (42). They also explain that listening to music is even more important when designing for opera, wherein "music contains most of the excitement and atmosphere" and "provides the emotion of the piece" (43). And finally, they address ballet, in which "the ballet designer should listen to the music, which will convey the mood and tempo of the piece" (44). Based

on this section, it is clear that Wolf and Block find it important to listen to music during the design process.

Though music is sometimes mentioned in design education, how to incorporate it into a design process is rarely taught. Wolf and Block have written a long section in their textbook explaining detailed methods of reading and analyzing a script, including instructions on what to look for in each read-through and examples of how one might highlight and chart the information found within the pages (42-44). In contrast, all they write about music is that designers should listen to it, as quoted above. There are no detailed instructions for what to do with a musical soundtrack—it cannot be highlighted like sections of a playscript, and the authors offer no musical charts for designers' considerations.

I have also found a lack of music-related discussion in my design classes. Professors have occasionally addressed music, saying for example that the energy of a play can ebb and flow in a musical way. But one comment on music in a semester-long class pales in comparison to the numerous discussions about playscript analysis and the primacy of the text. In his book *Music as a Chariot*, composer and sound designer Richard K. Thomas offers a possible explanation: it is hard to talk about music (8). Thomas says that "music is primal… music is so fundamental to our being that we take it for granted that we understand it. Everybody can listen to music and be moved by it. You don't have to have any training whatsoever. That is quite different from language" (8). We may be able to systematically analyze a language-based script, but performing this task with music is not as easy. Thomas finds that even musicians often lack this skill: "they play from the heart, from deeply ingrained intuition… ask them how or why they play notes in a certain way, and they will be at a loss to explain. It just happens" (8). The disparity between script and music inspired me to ask how I might incorporate music into my scenic design process. If

our goal is to tell a story, can music communicate a story in the way that words do? And if so, can I use the story of the music to inspire my visual design?

Encouraging visual designers to investigate music is also a way to promote effective communication amongst the members of a creative team. In this case, I use the term "creative team" to refer to the large group of people who work together to conceive and design a theatrical production, which may or may not include a director, choreographer, music director, conductor, scenic designer, costume designer, lighting designer, projection designer, sound designer, composer, and dramaturg. With this many people working together, collaborative practice is essential if the goal is to create a cohesive production. Wolf and Block support this idea, teaching that "none of the designers can, with integrity, design without concern for the work of their colleagues… each designer must acknowledge the needs of the other design areas…" (3). Since it is widely taught that cohesive design requires effective communication, it stands to reason that other visual designers (of scenery, costume, lighting, or projection) would benefit from learning how to incorporate music in their design process. Theoretically, this will allow them to collaborate more effectively with auditory-minded team members (conductors, music directors, and sound designers).

Reflecting on these topics led to the formulation of the following questions: "What is the relationship between what we see and what we hear?" and "How might the intentional incorporation of music affect the process of creating visual art?" In order to answer these questions, I conducted contextual research, reflected on my own practice, and curated a visual art exhibition inspired by music after which the participating artists reflexively analyzed the effects of adding music to their own processes. The following chapters include my findings on each of these subjects.

The second chapter of this paper covers my background research into the relationship between sight and sound. First, I draw extensively from Peter Vergo's *That Divine Order*, which enumerates several attempts throughout history to find a scientific or mathematical relationship between sight and sound. This phenomenon has captivated many minds through the years, and while no one has discovered a single method to objectively equate or translate sight to sound, evidence exists that observers will notice whether sight and sound complement or distract from each other. Next, I turn to author Hajo Düchting's accounts of Wassily Kandinsky and Paul Klee, who are both twentieth-century painters known for using music as inspiration for their work. Consideration of these artists' work reveals several different methods of visualizing music, but it also reveals some of the difficulties caused by the essential differences between sight and sound. Finally, I consider Cretien van Campen's *The Hidden Sense: Synesthesia in Art and Science,* which explains that synesthesia is a cross-modal mental condition in which some synesthetes experience sounds visually. In spite of the nebulous nature of the sight/sound relationship, my research into synesthesia indicates that relating sights and sounds in some logical way is useful for cognition and may be useful even to those who do not have synesthesia.

The third chapter consists of a foray into the more cerebral territory of story and language, two tools I suspect artists may use to interpret music. First, I define the way I use the term "story" in this paper. Then, I employ Iain McGilchrist's *The Master and His Emissary* and Richard K. Thomas' *Music as a Chariot* to discover how the brain interprets music and language, arguing that emotional ways of knowing are indeed legitimate and should be considered in combination with language-based knowledge for a cohesive interpretation of story. I also find support for this idea in Robert Edmond Jones' *The Dramatic Imagination* and Bruce Bergner's *The Poetics of Stage Space*.

In the fourth chapter, I apply my background research on the relationship between sight and sound to my own experiences in designing scenery for theatre and opera. Recounting my experience during the technical rehearsals for Texas Theatre and Dance's 2018 production of *The Merchant of Venice*, I illustrate the similarity between the time-bound nature of music and theatre, both of which the audience experiences as they unfold in time. This creates opportunities for directors and designers to temporally connect sight and sound by aligning music with movement, which requires careful collaboration and communication. In reflecting on my design process for the Butler Opera Center's 2019 production of *Eugene Onegin*, I find that various aural aspects of music (such as melody and mood) can serve as inspiration for various visual aspects of a scenic design (such as line and shape). Reflecting on my process during these two productions allowed me to specify a few ways in which music plays a role in my own scenic design practice.

In order to see if this personal discovery might be useful for other people, I produced a visual art exhibition entitled "Hearing As Seeing". In this exhibition, artists and designers submitted visual art pieces, which were all inspired by the same song. The methodology for the creation of this exhibition is explained in detail in Chapter Five.

Through surveys and in-depth, semi-structured interviews, I learned from the participating artists/designers how incorporating music affected their artistic processes. Exhibition attendees were also invited to fill out a survey in response to the exhibition comparing and contrasting the visual pieces and gauging the degree to which the visual art helped them understand the music (and vice versa).

Chapter Six explains the results and findings from the "Hearing As Seeing" exhibition, interviews, and surveys. Ultimately, I find that most artists were able to confidently interpret the music by creating visual pieces that they felt evoked similar moods or ideas to those evoked by the music. Though most artists were confident in their own

interpretation, many were not confident that audience members would be able to explain the connections the artists made. In spite of the artists' doubts, the audience members who filled out surveys revealed that they *did* find similarities between the various visual art pieces and connections between the visual artwork and the music. These results confirm not only that music can be useful inspiration for visual designers, but also that audience members can tell when music and visual design are in harmony. In this chapter, I also suggest several ideas for future studies that would approach this subject from slightly different angles and deepen my own understanding of this topic.

Chapter 2: Background Research

In this chapter, I study how scientists and artists throughout history have attempted to define the relationship between what we see and what we hear. I began this research in an attempt to consider this relationship without having to look through my own subjective lens. Is there anything about the way we sense light and sound that could objectively connect these two senses together? Unfortunately, I did not find any mathematical or physical evidence of a way to translate sight to sound. However, I did find that the curiosity around this subject spans the centuries, and the people who have written about it come from many backgrounds: they are students of music and art, but also science, math, and literature. Whether there is an objective way to visually interpret music or not, people have subjectively attempted it in many different ways—and the audience usually appreciates it.

Scientific Exploration of Auditory and Visual Parallels

There is significant evidence in historical scientific literature that suggests that our perceptions of sights and sound are connected. It is evident that both sound and light travel as waves. As sound designer Richard K. Thomas puts it, "sound and light provide our sense with clues to the nature of the universe in the form of waves that emanate from matter in that universe" (17). So there is at least a physical relationship between sight and sound at a fundamental level. This physical relationship has inspired exploration of the subject throughout history, and many philosophers and scientists have attempted to determine specifically how this connection manifests itself in the way we interpret what we see and hear. While this inquiry into historical scientific literature does not provide an objective

method for translating music into visual design, it is valuable in that it proves that this idea has captivated many minds throughout history.

Both light and sound are transmitted in waves, which are "vibrations that transfer energy from one place to another" (Thomas 17). These waves have measurable qualities; for example, we can measure a wave's frequency, which is the number of wave cycles in a given time. As the frequency of light waves changes, we perceive different colors. As the frequency of sound waves changes, we perceive different pitches. This means that color and pitch both directly result from the frequency of their respective wave forms. In the same way, amplitude, or the height of a wave, affects both light and sound waves. As amplitude increases in light, so does its brightness; as amplitude increases in a sound, so does its volume. Considering the physical qualities of the wave form provides a way to quantify color, brightness, pitch and volume mathematically, and it reveals an underlying relationship between light and sound.

Throughout history, many prominent painters, musicians, and philosophers have wondered how to scientifically translate sound and light. In his book *That Divine Order*, professor of art history and art theory Peter Vergo researches their relationship between music and visual art from a historical perspective. Pythagoras wrote about the mathematical nature of music as early as the 500s BC, although Vergo notes that the numerical ratios between the frequencies of pitches in a major scale are obvious enough that they were likely discovered long before Pythagoras' time (33). Later, scholars noted that the frequency ratios in pitches were also found in the ratios between dimensions of cathedrals, and this generated quite a bit of writing about the musicality of architecture. In one instance, renowned sixteenth-century architect Andrea Palladio wrote that "'the proportions of voices are harmonies for the ears; those of measurements [in colleague Lodovico Beretta's latest cathedral design] are harmonies for the eyes'" (156). Once

Palladio and others found connections between auditory and visual elements in the 1500s, their search was carried on into later centuries.

During the Renaissance, an era of vigorous scientific exploration inspired confidence that an objective relationship would be discovered. There was a pervasive belief among philosophers of the time that "…there remained 'few things that cannot be weighed, numbered, and measured,'" which led artists to continue looking for a way to numerically relate color and music (Vergo 179). Later, Isaac Newton created a diagram that equated a spectrum of seven colors (red, orange, yellow, green, blue, indigo, and violet) with the seven musical pitches of a major scale; he tentatively posited that if the colors on this scale were aligned with notes that created consonant harmonies, the colors would create visual consonance as well (and, it follows, colors aligned with dissonant harmonic intervals would create visual dissonance) (226). In other words, if two notes on his scale sounded good together, their corresponding colors would look good together, too. The relationship Newton described was never proven to be objectively correct or scientifically valid; however, many other such explorations have followed, many of which were, I believe, inspired in part by Newton's efforts.

Artists Giuseppe Arcimboldo, Louis-Bertrand Castel, and Alexander Wallace Rimington all built on Newton's exploration in different ways. In the late 1600s, Italian artist Giuseppe Arcimboldo invented a scale of values (from dark to light) that corresponded with the Pythagorean ratios found in pitches (Vergo 230). Since he compared value (which corresponds with a light wave's *amplitude*) to pitch (which corresponds to sound wave's *frequency*), there is no basis for this comparison in the structure of waves. In the early 1700s, French mathematician Louis-Bertrand Castel attempted to create a "'harpsicord for the eyes'" that would relate color and musical sounds (235). Even in the late 1800s, English painter Alexander Wallace Remington created a color organ "'for the

performance of colour-music'" in which the various organ keys, when pressed, caused different colored lights to shine on a screen (255). The variation in these attempts to create a direct causal relationship between music and light and/or color reveal that no objective relationship has been discovered. However, these attempts also show that Newton's ideas resonated with others, who have continued to explore the subject for hundreds of years.

And indeed, people still attempt to learn more about the sight/sound relationship today. In his overview of the nature of sight and hearing, Thomas highlights several more modern discoveries about the comparison between light waves and sound waves. He explains that "generally speaking, light waves are electromagnetic vibrations that transmit through space, and sound waves are mechanical vibrations that transmit through mass." (Thomas 17). Though these waves travel through different media, Thomas writes that they share properties of reflection, diffraction, absorption, transmission, and Doppler shift, meaning that the way they transmit information is very similar (17). In spite of these similarities, Thomas argues that the way we interact with light and sound is fundamentally different. This is because light waves travel at a very fast rate in straight lines, allowing us to "precisely determine the direction of the incoming source of light," whereas sound travels at a much slower rate in an omnidirectional wave, allowing us to perceive "very detailed temporal information" (18-19). Even in today's modern scientific literature, Thomas does not find a mathematical way to translate light into sound or vice versa. But he also finds potential in their differences: he asks his reader to "consider how magnificently light and sound complement each other" (19). Perhaps sound and visuals work in combination not because of their similarity, but because of their difference.

While it is clear that these light/sound associations have kept scholars preoccupied at least since the sixteenth century, no consensus exists as to whether they were founded on a mathematical relationship. In spite of the volume of writing about similarities between

architectural and musical ratios, Vergo notes that "we have no means of demonstrating that such ratios were employed because they were considered to be musical" (106), suggesting that this relationship is merely coincidence. Even if there is an objective mathematical answer to this question yet to be discovered, the historical confusion over the subject suggests that attempting to integrate music into theatrical scenery might not help the audience understand the story better.

However, Vergo goes on to suggest that there may be non-mathematical similarities between music and cathedral architecture. The music he specifically refers to is medieval choral motets, which are structured on a simple low tenor line with more ornamentation and variation in the higher voices; similarly, cathedrals of the twelfth and thirteenth centuries were built with simple ground plans and more ornamentation and variation in the second and third stories (126-127). This analysis focuses less on numerical values of pitches, beats, and light waves, and more on the audience's broader interpretation of both the music and the architecture.

Though attempting to mathematically compare sight and sound may be too mechanical, Vergo finds other sight/sound correlations, such as those found in the arts, to be more believable. Chinese painter and philosopher Tsung Ping wrote in the fifth century AD about how "the tones of music strike the ear just as the colours and forms of painting impinge on the eye, but it is in the heart that the mystical content of each is apprehended" (Vergo 49). In writing this, Tsung claims that there is a spiritual connection between the auditory and visual modes even if we cannot define the connection with numbers. Vergo explains that it is not "recognition of a depicted form or musical phrase and the physical mechanisms whereby these are perceived" but "the communication of spiritual content by means of 'sympathetic vibration'" that is important to Tsung (49). The seemingly unrecognizable, indescribable quality of this relationship has motivated many people like

me to search for a connection that can be more explicitly defined. Instead, we have kept running into a more subjective, spiritual relationship between sight and sound. It is this vague connection that we seek to exploit in theatrical design.

As I think about this sight/sound relationship in more emotional terms, I return to Vergo's musical interpretation of cathedral architecture, in which he compares the simple base structure and ornamented ceiling to liturgical chants' simple bass lines and ornamental tenor melodies. When specifically looking for an emotional connection between music and architecture, Vergo found one. This is highly applicable to theatre in that its audience also actively searches for the play's story as they experience the production. Perhaps the more spiritual, unquantifiable relationship that Tsung calls "sympathetic vibration" is evident to audience members who expect to find a cohesive story amongst the various modes of theatrical expression. In the next section, I look beyond the physical relationship between light and sound waves to discover what Vergo says about the emotional connection between these two modes.

ARTISTIC EXPLORATION OF AUDITORY AND VISUAL CONNECTIONS

Setting objectivity and math aside, I focus in this section on the intuitive and artistic relationships between music and imagery that people have found throughout history. Written music is an excellent example, since it is literally a written version of auditory information that is not based on a physical relationship. Dance also speaks to this subject, as dance is a visual and physical art form typically set to music. Vergo addresses both of these subjects in *That Divine Order*.

Written music came about as a means of visually representing auditory sounds. This system, like written language, was invented as a communication tool. By AD 800, churches

across Europe sang liturgy with slight variations as songs were spread verbally in a continent-wide game of "Telephone." To combat these variations, monks devised ways to write down the music they claimed as the standard version of liturgical chants (Vergo 109-112). Their system has grown into today's Western musical notation, in which notes with a higher frequency are given a higher position on a musical staff, and lower frequency pitches are given a lower position. (Of course, music notation is much more complicated than this, but I will focus on pitch to avoid getting too deep.) Aside from the frequency value, there is nothing objective that determines whether a pitch is "low" or "high." Many different systems for writing music were invented before anyone had even discovered frequency, which begs the question, how did the inventors of these systems decide which pitches belonged higher on the staff and which belonged lower? Vergo notes that this system of pitch representation is "common to many different periods and cultures, suggesting something deeply ingrained in human thinking about the way we conceive of sound as well as, possibly, some intuitive relationship between musical and spatial perception" (111). This "intuitive relationship" between pitch and height is one method we use all the time to visually represent music.

In *The Divine Comedy*, Dante references dance, music, and architecture, creating analogies between these art forms. Vergo highlights a section of the book where Dante describes slow-moving dancers who sing sustained musical notes and fast-moving dancers who sing moving melody lines (130). This shows that Dante felt slow choreography (i.e. the visual element) pairs best with slow, sustained notes (i.e. the musical element), illustrating the idea that timing and tempo can make visual and auditory experiences feel cohesive. Vergo also references author Kathi Meyer-Baer, who noted in her book *Music of the Spheres* that Dante seems to associate "the highest heavens" with "nothing but motion, sweet singing and, above all, light" (131). Through Vergo and Meyer-Baer's interpretation,

we see Dante using music, architecture, and light together to reinforce the emotional impact of his story. Height, openness, movement, speed, and quick-moving melodies are all seen to be working in unison in this passage, presumably contrasting with lowness, confinement, stillness, slowness, and sustained notes. In these passages, Dante intuitively weaves together both modes—visual and aural—to cohesively evoke a certain mood.

Dante is not the only author who feels that music and visual design share the same purpose. Vergo quotes Descartes, who claims that "[Music's] aim is to please and to arouse various emotions in us. Melodies can be at the same time sad and enjoyable" (179). During the Renaissance, "almost everyone agreed that music, viewed as a serious form of art rather than mere mindless entertainment, was indissolubly linked to what were essentially narrative purposes" (189). As I described in the first chapter, the same is true for visual design, in which the designer makes a visual statement that arouses whatever emotions are appropriate for telling the story of the production. Thus, Descartes's work shows that music supports narrative in the same way as visual design, and Dante's work shows that these elements are effective when they work together.

Perhaps it is because both visual and aural art elicit emotion and tell stories that we use similar words to describe them. Vergo uses the musical term "harmony" as an example, which usually describes multiple notes sounding at the same time and producing a musical "chord." The combination of notes determines whether the chords feel consonant (smooth and natural), dissonant (jarring or "wrong"), or somewhere in between. In analyzing painting, authors also use this term: "In discussions about painting, the term 'harmony' often points to nothing more revolutionary than the idea that a picture should be well-ordered, its composition correctly balanced, the disposition of figures and individual parts logical and clearly thought out" (Vergo 221). In other words, the harmony of the painting refers to the relationship between different elements, much as the harmony of music refers

to the relationship between notes. Other artists have talked about this term, such as Pietro Testa, who wrote "that by the 'principles of the rules of harmony in music are to be understood the rules of colour, the former having high and low notes as limits, the latter light and shade. We must approach these extremes with those temperaments that are in music like steps…'" (Vergo 222). In Testa's opinion, the different values (light and dark areas of the painting) are the elements being compared. The word "harmony" is just one word that describes specific aspects of both musical and visual art (I listed several more in the materials displayed in the lobby of the "Hearing As Seeing" exhibition, and this list can be found in Appendix C.). The similarity in the English language's descriptors for these two different art forms points to a deeper connection in the way we, the audience, perceive them.

I have briefly touched on the temporal quality of art, but it bears further exploration. Music is clearly time-bound; the notes happen at a certain time, and once the song is over, it is over. Thomas goes so far as to define music as "time manipulated" (9), indicating that time is, at the very least, an important component of music. In contrast, a painting transcends the boundaries of time; once it is painted, it exists—unless it erodes away. Vergo briefly addresses this difference, noting that "musical sounds are, by their nature, short-lived. A musical performance is soon over… [pictures'] content and structure could be grasped in a single, concentrated moment. Or so it was often said" (19). He sarcastically uses that last sentence to hint that truly experiencing a painting requires the viewer to spend time observing the work. I agree with Vergo at least that one cannot rush the experience of either of these art forms without missing part the author's message.

Thomas also has an opinion on this topic, arguing that a visual work cannot be experienced "simultaneously," but music and visual art are both experienced in a sequential way. He notes that music unfolds linearly in time, clear evidence for sequential experience

(18). When viewing a painting, our eyes begin to jump from detail to detail, and Thomas uses this phenomenon as evidence of the sequential nature of experiencing visuals (69). Thomas also refers to the simultaneity of music, using harmony as evidence that we can perceive multiple sounds at the same time (69). Though Vergo claims we can experience a picture in "a single concentrated moment" (Vergo 19), which sounds to me like Thomas's definition of a simultaneous experience, Thomas writes that simultaneity only applies to music (Thomas 68). I would argue that just as we can listen to multiple music notes at once, we can view a visual work of art as a whole by standing back or using a sort of "soft focus." Regardless, traditional paintings do not change through time in the way that music does, which allows them to be viewed in essentially the same condition, at any moment, and for any amount of time.

Vergo argues that the boundary of time is a disadvantage to the musical art, but I see it as an advantage. Musicians can use timing as a tool to influence their audiences by spoon-feeding them certain feelings at just the right moment to elicit a specific cocktail of emotions. Painters can provide all the ingredients, but then they can only sit back and hope their audience will look long enough to notice each one in the correct order, thereby stumbling upon the perfect recipe. These two media both tell a story and elicit emotion from an audience, but due to their interactions with time, they go about it in fundamentally different ways.

Perhaps this distinction is one reason why theatre was invented and why I find this issue so fascinating: theatre almost always combines visual and auditory art. Their dissimilarities, when used together, could fill in the gaps in each other's modes of communication. The visual picture should allow the audience to *see* the story take place, and the sound of music and dialogue should fill in any missing information. But when auditory and visual modes work in contrast to each other, the story can get confused or lost.

Not only does theatre capitalize on the differences between visuals and sound, but it adds a temporal element of its own to the visual design elements. Lighting and movement can affect the timing of theatrical visuals: certain elements can be revealed and hidden at different times, and the movement of actors or scenic elements can change the visual picture throughout the performance as well. This gives the visuals of theatre a more complex and specific type of sequential nature than the sequential nature of static artwork described by Thomas. I address this idea further in the sections about my personal design work. But first, I explore synesthesia. In the following section, I explain how this condition provides evidence that coordinating auditory and visual elements in this way will benefit the audience.

SYNESTHETIC EXPERIENCES OF AUDITORY AND VISUAL CONNECTIONS

Looking further into our perception of sight and sound, I consider a condition called synesthesia, in which a person experiences cross-modal sensory stimulation. Cretien van Campen explains this further in his book *The Hidden Sense: Synesthesia in Art and Science*. "Literally," he says, "'synesthesia' means to perceive (esthesia) together (syn)" (van Campen 1). In one version of this condition, the sensory neurons for sight and sound are physically connected in the brains of synesthetes (people who experience synesthesia). This means sounds trigger the visual areas of their brains, causing them to literally perceive colored imagery along with the sounds whenever they hear anything. In other types of synesthesia, different types of sensory neurons are connected; for example, smells may be associated with sounds or letters and numbers with colors.

Expounding on what this experience is actually like, van Campen quotes from an interview with "Patrick," a synesthete who sees sounds when he hears them:

> When it is silent, I see a black space, somewhere at an angle above me, but it looks different from the things that I perceive with my eyes. The forms that I perceive are often colored lines that disappear from the left and right of the image. Some sounds sculpt the lines into three-dimensional forms giving them depth, so to speak. Not all lines acquire depth. For instance, I see *plop*-sounds as circles, which is entirely logical, of course. That's why I always thought that everyone perceived sounds in this way. All of them look so logical. (11)

Patrick's explanation reveals several important facts about his form of synesthesia. First, he explains that his hearing is physically spatial by telling his interviewer that he visualizes silence at an angle above himself. Second, the sounds he hears take on color. Third, those sounds also take on shapes: lines, circles, and other three-dimensional forms. Again, this is just one synesthete's experience, but it is interesting to note that Patrick does not control what he experiences; it is so "logical" to Patrick that he thought all people experienced sounds this way. His cross-modal experience is "objective" in the sense that it is not influenced by his own feelings or choices.

Though synesthesia is defined by some as a neurological defect, van Campen reports that synesthetes often find it extremely useful, "for example, when they have to remember names or telephone numbers. Some look pityingly at non-synesthetes who have to live without those beautiful colors and patterns in music. Synesthesia actually offers them advantages in their daily lives" (6). Patrick has, in essence, what I am looking for: a logical connection between auditory and visual stimuli that helps the experiencer understand the world better.

Given that some synesthetes literally see music, synesthesia may seem like a miracle-cure to my research problem. However, there are two key weaknesses. First, even within the small group of people who experience music-visual synesthesia, each person's experience is entirely unique. Though Patrick may see silence as a black area, another synesthete may see silence as a white line. And second, since synesthesia is caused by the physical structure of the brain's neurons, literal music visualization is not a "skill" that can

be learned or adopted by non-synesthetes. This means that even if some synesthetes have an "objective" connection between sound and visuals, it does not translate to other people.

Further complicating this topic, the number of people who visualize music due to synesthesia is probably quite small. Estimates of the percentage of synesthetes vary from 1 in 20 to somewhere around 1 in 20,000, with the most recent estimates ranging from 1 in 100 to 1 in 500 (between 0.2-1% of the population) (van Campen 128). And as I have already mentioned, different senses are crossed depending on the person in question within this small group of synesthetes. The most common expression of this condition is to associate graphemes (letters, numbers, or other written characters) with colors, and according to researcher Sean Day, this particular expression happens to 64.9% of synesthetes (van Campen 131). Visualizing music is only the third most common expression, which 19.5% of synesthetes experience (131). And again, each person within this music visualization subset of synesthetes visualizes music differently (14). Due to the rarity of synesthesia and its seemingly infinitely variable manifestations, it does not provide evidence for a universal music-to-image translation and is therefore less likely to be applicable to my theatrical design.

In spite of these complications, I find a few key takeaways from the synesthetic experience. Utilizing connections between two senses as synesthetes automatically do proves useful in making sense of the world and remembering facts. If synesthetes can use visuals to remember what they have heard (and/or sounds to remember what they have seen), others could use this same strategy. This is not unlike using a mnemonic device (sound) or imagining a scene (visual) to help remember abstract memories (as Sherlock Holmes is known to do). I do this occasionally when talking with friends; if I think of a "rabbit trail" topic in the middle of a conversation, I imagine myself pinning it to a cork board on a colored sticky note. Intentionally associating the new topic with a color and

specific visual location helps me to remember it later so I can bring it up when the previous discussion has finished. Since this is an intentional choice, this is not synesthesia; however, the association of visuals or colors with ideas or words in order to improve memory or understanding is an intentional application of synesthetic experiences to remember or build comprehension. This is evidence that this method could apply to theatrical design as well; cohesive visuals and sounds could help the audience comprehend a story and remember significant plot points.

MODERN ART'S AUDITORY AND VISUAL CONNECTIONS: KANDINSKY AND KLEE

As I apply this research to theatrical design, I turn to modern abstract art as a model, specifically examining how Wassily Kandinsky and Paul Klee have studied the relationship between music and painting. First, I look at Kandinsky's process.

Kandinsky has written about how music inspired his art. In fact, historians have speculated as to whether Kandinsky was a synesthete. In a book about the painter's life and work (also titled *Kandinsky*), art historian Hajo Düchting writes that Kandinsky had a "'shattering' experience that challenged his artistic sensibilities [when he saw] Wagner's Lohengrin at the Moscow Royal Theatre…" (Düchting, *Kandinsky* 10). He quotes Kandinsky's writing about the event:

> 'I saw all my colours in my mind's eye. Wild lines verging on the insane formed drawings before my very eyes…" The relationship between colors and sounds, between music and painting, was not just theory to Kandinsky; it truly existed. This relationship… became a cornerstone of his artistic convictions, indeed the foundation of his painting. (10)

Kandinsky's theoretical writings encourage people to believe that he was synesthetic, as this explanation of his experience at Wagner's opera is strikingly similar to those of

musical-visual synesthetes like Patrick. Kandinsky's book, *Concerning the Spiritual in Art*, also reveals analogies he found between painting and music: "'Colour is the keyboard, the eyes are the hammers, the soul is the piano with the strings. The artist is the hand which plays, touching one key or another, to cause vibrations in the soul'" (17). He was, perhaps unsurprisingly, fascinated by opera and theatre, even writing a few operas himself.

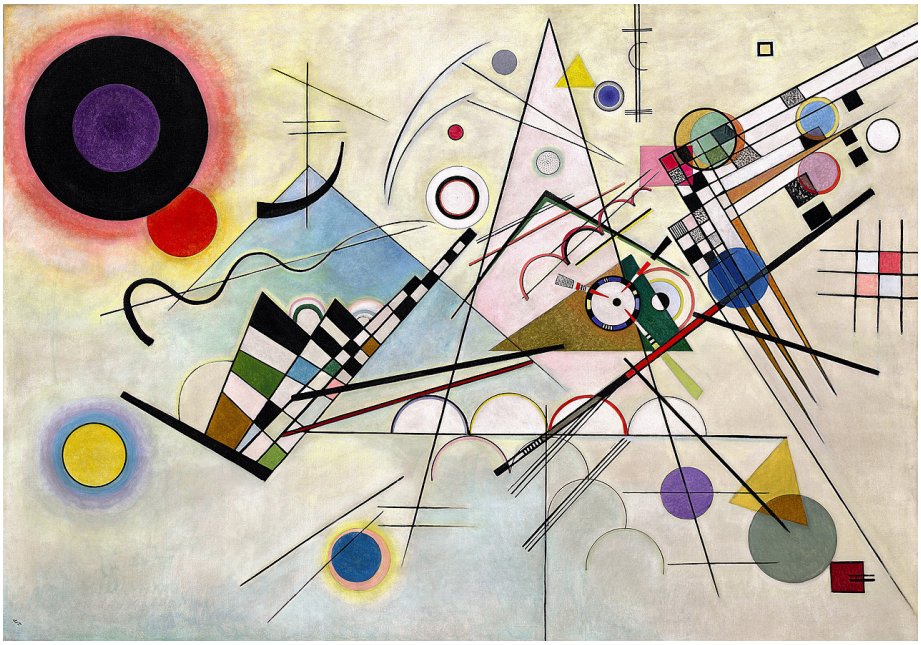

Figure 2.1: Kandinsky, Wassily. *Composition 8*. 2020. Solomon R. Guggenheim Museum, New York. Accessed 17 Apr. 2020.

Many of his paintings were called "Compositions" (see Fig. 1) or "Improvisations," alluding to musical terminology (30). All of this is evidence that Kandinsky was interpreting musical ideas in his paintings. However, his writing fails to explicitly guide the reader through the methods he used to create visual representations of songs, and there is some argument about whether any of his paintings were actually intended to be visual representations of specific musical phrases or simply abstract paintings based on the idea

of music itself. Due to his apparently synesthetic association between music and imagery, I am inclined to believe that there are at least some musical phrases directly visualized in some of his work, but I have not found specific evidence to back this up.

Paul Klee, another modern era painter, also made frequent reference to the relationship between music and painting. Hajo Düchting also wrote a book about Klee's work entitled *Paul Klee: Painting Music*. He quotes Klee's writing in the 1910s, which said on the subject: "'I am continually being made aware of parallels between music and the fine arts. As yet they defy analysis…'" (Düchting, *Paul Klee* 9). In the late 1920s,

Klee was still not sure "…how to translate the wealth of insight acquired from music into painting…" (Düchting, *Paul Klee* 10), but he was continuing to investigate the subject with various drawings and paintings. According to Düchting, "Klee sought the actual basis for the analogy in the most inner being of music—in rhythm" (13). Klee used this principle to create works with "clearly articulated structure and the refined variation of themes, which he noticed above all in the polyphonic fugue" (14).

Klee's attention to rhythm and fugal structure shines clearly through his painting Fugue in Red (See Fig. 2).

Figure 2.2: Klee, Paul. *Fuge in Rot*. 1912, Zentrum Paul Klee, Bern, Switzerland. *Wikimedia Commons*. Accessed 17 Apr. 2020.

In order to understand this, it is necessary to explain how fugues work. A fugue is a highly structured musical piece with various "voices" that repeat melodies. The fugue begins with a solo voice playing a melody. As this first voice finishes the phrase, it moves on to a second melody while a second voice joins the fugue, playing the first melody. When the first voice finishes the second melody, it moves on to a third melody, the second voice follows in its tracks by playing the second melody, and a third voice joins the fugue by playing the first melody. The fugue continues in this pattern, with each new voice taking up the first melody as it joins in, and all previous voices moving on to play whatever melody is next in line. The voices may play each melody with slight variations, but the overall melodies remain consistent and recognizable. In Klee's painting, a series of flat shapes appear in light pink, with increasingly dark red "copies" of the shapes appearing underneath them, as if the shapes were disappearing into the dark black background behind them (Klee, *Fugue in Red*). In this work, I see the shapes as melodies, and the different

shades of shapes following them as visual illustrations of the various voices picking up those melodies at different times. There is a clear sequential quality to the painting, as each repeating shape is painted behind and to the left of the previous one. This gives the painting a sense of movement, suggesting that time is moving forward and achieving a temporal quality without actually changing the image through time. This painting is a great example of how Klee visually illustrates specific music theory principles.

Klee's visual interpretation of specific principles seems more useful to me as a visual designer than Kandinsky's. While looking at Kandinsky's work, I can believe that there is something vaguely musical about the way he paints. But in Klee's work, I almost instantly recognize the way his paintings interpret the music that inspired them. I see elements of the form and themes of the music, and this helps me imagine what they sound like. Since Klee's application of the sight/sound relationship visually evokes the song, his methods are a tool that could be used in my scenic design practice.

Chapter 3: Story, Language, and Music

When I asked myself how I might personally use music to inspire design, my first hunch was that I should be able to find a story by listening to music in the same manner that I would find a story in the text of a playscript. As the dialogue of the characters conveys meaning to the reader, so might the notes of a song convey meaning to a listener, or so I presumed. Diving into this subject prompted more questions than answers. How should I define "story" as I refer to it in this paper? Is story present in visual art? Is it present in music? What is the difference between music and language? Can we understand story without describing it in language? These questions do not have simple answers. Though the subjects of story, language, and music could each inspire many full theses on their own, I have attempted to provide enough information in the section below in order to at least define these terms and their relationship to my own paper.

ON STORY

First, I will attempt to define story. In their scene design textbook, Wolf and Block say that a design's "most important function is to serve the unfolding story line" (37), and they define story as "a thread of related incidents that are held together and given continuity by dramatic form" (41). This means that story has a linear quality, starting somewhere and ending elsewhere. The authors contrast story with theme, which "…is, of course, closely linked with mood and with the storytelling part of the dramatic form. Theme is defined as the main idea of a play, or the main point that the author wants the audience to realize" (39). So in contrast with theme, story is not the main point of a play but the actual change that occurs as a play progresses from beginning to end.

This definition tracks with my own recollection of the definition of story. Perhaps the simplest definition I remember being taught is that a story has a beginning, middle, and end. This is right on par with Wolf and Block's definition. When discussion storytelling in playscript analysis courses, we often refer to the form of the well-made play, in which an inciting incident leads to a climax, which is then followed by a denouement. Between those steps, actions and events move the plot along. This is slightly more complicated and specific than Wolf and Block's definition, but the essence is the same: a string of incidents that starts and ends.

So, does visual art contain story? Yes and no. Some visual art clearly tells stories. Film, a time-based visual (and auditory) art form, obviously features a sequence of events. Like time-based art, some static art forms clearly tell stories; comic strips are a great example, featuring images of events in a physical sequence. Aside from these and a few obvious examples, most visual art only *arguably* contains storytelling. At first glance, it seems clear that most static art pieces, such as paintings and sculptures, do not show a string of events. However, what about a realistic painting of an action unfolding? Consider Norman Rockwell's "Girl Running with Wet Canvas" (see Fig. 3).

Figure 3.1: Rockwell, Norman. *Girl Running with Wet Canvas*. 1930. *WikiArt*. Accessed 18 Apr. 2020.

The figure in the painting has clearly come from somewhere, is performing an action, and is going somewhere else. I assume that Rockwell at least had a story in mind when he painted this illustration, and I can easily imagine what happened before and after this frame. Is this implied sequence of events—including a beginning, middle, and end—enough to qualify as storytelling? What about more abstract artwork, such as Paul Klee's *Fugue in Red* (see Fig. 2)? The painting does not seem to be about people, places, or things, but I *can* see movement in the piece and imagine the shapes appearing and fading in sequence as I described in the previous section. Does that mean this painting tells a story? My feeling is that the paintings themselves do not contain an explicit story, but that storytelling can

occur in the interaction between the viewer and the painting. It is as if Klee and Rockwell have set out the elements to make a story and invited us to string them together, inventing our own sequence of events.

A similar argument can be made for music. Music is time-bound, meaning it is inherently sequential. It cannot exist out of sequence in the way that visual art might. It has a beginning and an end, and there are changes between that usually involve some kind of emotional or thematic impact. But I am not sure these changes fit Wolf and Block's definition of "incidents." Perhaps storytelling also happens in the interaction between the music and the listener as we associate certain combinations of sounds with building intensity, climax, and resolution. This phenomenon—that storytelling happens in the audience's interpretation of the art—is what I will refer to with the term "story."

The reason I expand the definition of story (at least for the sake of this paper) to include this interaction with an audience is that it is present in theatre as well. When we aim to tell the story through design, we usually create elements that do not literally exhibit a sequence of incidents on their own. But storytelling does occur in the interaction between the design elements, the characters, and the audience. In this sense, the design elements tell the story of the play when experienced in the context of all the other aspects of the production.

ON MUSIC AND LANGUAGE

Next, if music and language can both tell a story, what is the difference between them? In his book about the human brain, *The Master and His Emissary*, professor/psychiatrist Iain McGilchrist includes a chapter on "Language, Truth and Music." Much of this chapter is focused on the dichotomy of *wissen* and *kennen*, two

German terms that represent different aspects of single English verb "to know." *Wissen* refers to amassing knowledge about something by gathering facts that are easily communicated in words, whereas *kennen* refers to "encountering" something in a way that is much more difficult to define verbally (94-5). He describes listening to music as being like forming a relationship with a person: "The empathic nature of the experience means that it has more in common with encountering a person than a concept or an idea that could be expressed in words" (96). This is an example of the *kennen* type of knowledge, whereas reading a script would be a great example of the *wissen* type. This is not to say that we only use *wissen*-type approaches to analyze scripts and *kennen*-type approaches to understand music; we could talk about the changes in key signatures in a stanza of music (*wissen*) or get goosebumps from reading a monologue (*kennen*). But I think it is fair to say that in the context of determining story, *wissen* will serve the audience better in reading a script while *kennen* will serve better in listening to music.

So, if we can use *kennen* knowledge to experience storytelling through music, must we describe that process in language using our *wissen* knowledge? Similarly, can we even think without language? These questions have an easy answer: yes. I assume everyone has had the experience of listening to a song and feeling a strange mixture of emotions without knowing how to define them verbally. I would also be willing to bet based on my personal experience that anyone who has written a thesis has thumbed (or scrolled) painstakingly through a thesaurus, searching in vain for a word that does not exist, only to give up and write an inadequate stream of adverbs and adjectives in a sad attempt at communicating an inarticulable—but nevertheless *real*—thought. McGilchrist points out several other examples of thinking without the use of language. Infants both recognize sights/sounds and have wants/needs, yet do not have the capacity to speak (103). In addition to human babies, "animals can think and form concepts" without the use of language (107). Thought is also

evident in patients who have developed and recovered from aphasia (the loss of the power of speech); these patients can recall the sensation of having thoughts and simultaneously being unable to verbalize them (109). All this seems to be a clear answer that, yes, we *can* think about the emotional impacts of music—our *kennen* understanding—without needing to put those thoughts into words.

In *Music as a Chariot*, Thomas takes this assertion one step further. He contrasts the way we perceive sight and sound: "In humans, the nerves from the auditory system connect directly to the amygdala through the brainstem and the thalamus…" (30) Since the amygdala is the emotional center of the brain, he says "this means that we are entirely capable of emotionally reacting to an auditory stimulus without ever even consciously thinking about it!" (30). We can know (*kennen*) music not only without defining (*wissen*) the experience in language, but also without *thought*.

Robert Edmond Jones, whose scenic designs graced stages throughout the first half of the twentieth century, has strong feelings about how this subject relates to theatre. He writes in his book *The Dramatic Imagination*,

> The error lies in our conception of the theatre as something set aside for talents that are purely literary. As if the experience of the theatre had only to do with words! … There is something to be said in the theatre in terms of form and color and light that can be said in no other way. (72)

Not only does he argue that we can communicate without filtering our experience through language, he argues that some thoughts are in fact *better* communicated *without* language. Jones also argues that some language communicates more through its emotional properties than its literal words. For example, in Juliet's famous line about "the inconstant moon," Jones says, "…it is not the knowledge of the atmospheric conditions prevailing in northern Italy which counts, but the response to the lyric, soaring quality of Shakespeare's verse" to

which the designer must respond (24). Rather than focusing on the *wissen* of Juliet's lines, it's the *kennen* that tells the story.

Bruce Bergner also uses the word "encounter" to describe the designer's experience in his book, *The Poetics of Stage Space*. I quote his description of this phenomenon at length as he evocatively describes the indescribable encounter and its effects on the designer:

> A walk through a lavish arboretum or conservatory filled with thriving flora from distant lands stirs one's imagination. It compels one to dream of the fancies and creatures/characters of worlds beyond. It conjures the subconscious and perhaps inspires lust and longing. Highly emotional music, such as the works of Debussy, has a similar effect.
>
> The reason these effects occur is because the attributes of the created world, or what I call the psyche of the space, has a strong tie to the psyches of the tenants. As I allude to above, the designer's experience with these psyches and/or souls is a kind of psychology/parapsychology. And this psychology/parapsychology is a matter of *encounters.*
>
> As you pass through a space, or observe it with a perspicacious disposition, you may sense a presence of something that commands your attention. The presence may seem oddly indescribable. But it has attributes that reach you and you can relate back to it in some personal fashion. This encounter should make you pause, contemplate and try to find the connection. I believe this is a connection of numerous psyches, old and new, theirs and yours, and vitally important. Such an encounter will eventually express the soul of the space. It's a soul you can know. (99)

Bergner clearly explains that though these encounters may be "indescribable," they are personal, knowable, and important. This is a perfect example of the benefit of flexing the *kennen* form knowledge.

This is essential to my study because it legitimizes inarticulate feelings about music. I asked the artists participating in this study to translate a song into visual artwork, a process which does not necessarily involve words. It is possible that these artists would use language to define the song, then create a piece of visual art based on that verbal

description. But it is also possible that they would skip the intermediary step of verbalizing their interpretation (*wissen*) and simply reflect on their "encounter" with the music (*kennen*) to create their artwork. If this is the case, they will likely not be able to describe their process in words, especially off the cuff in an interview. Based on the ideas I have borrowed from Thomas, McGilchrist, and Jones, an inarticulate response does not mean their work is less than satisfactory. The idea that we can truly *know* through listening to music fights against academia's habit of stigmatizing creative thinking. McGilchrist hints at this, saying that "the belief that one cannot think without language is yet another fallacy of the introspective process, whereby thinking in words *about* language only serves to confirm the importance of the verbal process" (106) and also, presumably, the *un*importance of *non*verbal processes. In my experience, this is born out when academic institutions promote disciplines whose knowledge can be charted or written down while the nonverbal work of musicians, fine artists, and other primarily nonverbal disciplines is comparatively minimized. Freeing the exhibition artists to draw what they hear, rather than drawing what they *can say* they hear, is my attempt at overcoming this stigma.

That said, it seems that McGilchrist, Thomas, Jones, and Bergner would all ultimately agree that music, language, and thought function best in combination. Thomas argues that music is most effective as a chariot (hence the title of his book); by resonating with the audience, music can "create shared states of mood and emotion, to which we *attach* meaningful language" (152, italics mine). McGilchrist eventually connects the *kennen* and *wissen* ways of knowing to right- and left-brain processes, respectively (96-97), and then claims at the end of the chapter that "both of these drives or tendencies can serve us well, and each expresses an aspect of the human condition that goes right to the core. It is not inevitable, ultimately, that they should be in conflict; and in fact, it is best that they should not be" (128). Bergner explains that "Composition is a process of forming

various parts into a logical whole," (3) which is in line with McGilchrist's definition of the *wissen* type of knowledge. But Bergner follows this by saying, "[a] finished composition expresses a message clearly with an impact that can be felt deeply. The composer, to achieve this, must be informed by a vast body of knowledge, as is the theatre artist: a composer of worlds" (3). Bergner acknowledges that designers must apply the *wissen* knowledge to allow for the *kennen* encounter that will allow the story to be felt deeply by the audience. Finally, Jones also references both ways of knowing. He says, "…the spoken word still retains its power to enchant and transport an audience…" (Jones 143) but he also says, "[a] good scene, I repeat, is not a picture. It is something seen, but it is something conveyed as well: a feeling, an evocation" (23). Based on these statements, I think Jones would agree that the audience should hear the language of the script *and* see the picture onstage in order to best understand the story. I think all four of these authors would agree, then, that the audience can get the most out of theatre when we as designers integrate our ways of knowing. We can—and should—attempt to find story in both music and script.

This foray into music, language, and story frames the importance of the roles played by language and story in our interpretation of music. Based on Thomas and McGilchrist's writings, it is vital not only to output cohesive design, but to take in stories in a cohesive manner. In the next chapter, I discuss how I have applied the principles I discovered in my background research to my design work at the University of Texas at Austin.

Chapter 4: Practice as Research

In this section, I reflect on what I learned about the relationship between sight and sound during the scenic design process for the University of Texas at Austin productions of *The Merchant of Venice* and *Eugene Onegin*. My consideration of *The Merchant of Venice* illuminates the temporal nature of theatre: the movement of visual elements can be clearly aligned with the sound, which can clarify the storytelling of design elements. In my scenic design for *Eugene Onegin*, I applied the principles I found in Kandinsky and Klee's work by allowing my perception of Tchaikovsky's musical score to influence the overall aesthetic of my design. My two different approaches to these productions begin to illustrate how intentional incorporation of music might inform a visual designer's process.

THE MERCHANT OF VENICE: INCORPORATION OF MUSIC AND TIME-BASED VISUAL DESIGN

During technical rehearsals for Texas Theatre and Dance's 2018 production of *The Merchant of Venice*, the creative team (which includes the director, scenic designer, costume designer, sound designer, media designer, and lighting designer) found that it was beneficial to synchronize the movements of scenery, lighting, and sound cues whenever possible in order to create the clearest storytelling moments with the most emotional impact. As each scene came to an end, scene changes (or "transitions") were necessary to change the current scenery and lighting in order to signal to the audience that the story was moving to a future time and different location. The transitions illustrated the need for synchronizing visual and aural changes.

During the transitions, the sound designer played back custom-composed musical themes that corresponded with the different locations (known as a leitmotif or musical motif). At the end of the first scene of the play, the designer played a melody associated with the location of scene one. This motif, which the audience heard along with the final lines of dialogue, served as a means of wrapping that scene up. When that theme was finished, the melody of the music changed to the motif that the designer had associated with the location of scene two. By changing from one location's motif to the next, the music signaled that the story was moving from the first location to the next.

When the lighting designer heard this sound cue, he adjusted his lighting cues to make the design more cohesive. He rewrote his light cues so that they included a "transition look" specifically for the first part of the sound cue, a second transition look for the second part of the sound cue, and then a "lights up" look for the beginning of the following scene that was triggered when the sound cue faded out. The first transition light cue included colors, angles, and patterns of light used in the previous scene, but it was pared down and at a lower intensity since no important acting or dialogue was happening between scenes. Seeing this cue and hearing the transition music at the same time allowed the audience to associate both the music and the lighting look with the end of the previous scene. The second part of the light cue included elements used in the following scene, but again, simplified and at a lower intensity. And again, this allowed the audience to associate this second part of the transition with a new idea, both aurally and visually. At the end of the transition, the "lights up" cue brightened the stage at the same time, revealing that the similar color, angle, and pattern of the lighting in the second part of the transition was actually foreshadowing (no pun intended) the following scene's general appearance and mood. And, as the lights faded up, the sound faded out. In this way, the lighting designer

and sound designer synchronized their designs in order to cohesively tell the audience that one scene had ended and the next scene was beginning in a new location.

Synchronicity also applies to scenic design. First of all, both the lighting and sound established important "design conventions" in this first transition. The convention of coordinating lighting and sound with location changes became a way to inform the audience of the location in the following scenes. The audience may not specifically notice these transitions, but this design convention has a subliminal effect on their interpretation of the story. Since establishing the location is one of the principal goals of the scenic designer, it was essential for me to pay attention to anything that would help the audience understand where the scene was taking place. Even if there had been no scenery, the audience members conceivably would have been able to figure out where each scene was happening, whether they were intentionally listening for motifs and looking for the lighting changes or just subconsciously absorbing the information provided to them. Further, these transition cues created perfectly logical moments for scenery to move. The props from the previous scene were struck during the first part of the transition, which was intended to wrap up scene one. The props for the following scene were brought onstage during the second part of the transition, which introduced the musical and lighting themes of scene two's location. This made it clear that the lighting, sound, and scenery were all working together to create a cohesive sense of location in this transition, and these ideas were implemented throughout the production in a successful integration of visual and auditory design.

In addition to transitions between scenes, there were other moments when I applied similar principles. The scenery I designed for The Merchant of Venice featured five sets of eleven-foot tall French doors, which were each covered with semi-translucent, ivory-colored curtains (see Fig. 4).

Figure 4.1: Shylock's House from: *The Merchant of Venice*. By William Shakespeare, directed by Adam L. Sussman, The University of Texas at Austin Department of Theatre and Dance, 2018. Photographer Jesse Easdon.

Both the doors and curtains opened and closed at various points throughout the show. During one scene, the director asked if we could open the curtains to subtly reveal some ensemble characters, then close them to hide the characters again. I advised that such a moment would not be subtle: the height and bright value of the curtains meant that opening them would create a huge visual impact on the overall look of the stage. If this moment needed such a huge impact, it would be appropriate to open the curtains. But, if this was the case, I would also expect there to be a sound cue to support the visual change. Without this coordination between scenery and sound, I felt that it would have looked like the crew made a mistake and tried to sneak the curtains open so the audience could see the performers. Since the moment in question was neither important to the story nor a

significant emotional moment for the audience, we chose not to open the curtains. I felt justified by the fact that the sound designer had not originally written a sound cue for this point in the scene, meaning that he did not think it merited any significant auditory change. In this instance, it became clear that the auditory and visual aspects of the production were also unified at times by their *lack* of change.

In a third example, the lighting designer for our production put it this way: "If you're going to make a moment, make a moment." He was referring to a specific point in one scene where two live-feed camera operators stopped filming the actors onstage and turned their cameras toward the audience. Without support from any sound and without added visual support from lighting, this supposedly strong statement felt weak. After the director realized this issue and discussed it with the design team, the lighting designer added a zero-count "bump" light cue to instantaneously bring up the light on the audience, and the sound designer created a sharp, percussive sound cue that echoed the feeling and timing of the lighting. After this adjustment, the timing of all three effects worked together to shock the audience and reveal their implicit involvement in the story.

In this and the previous examples from *The Merchant of Venice*, I consider the time-based visual elements—movement of scenery and timing of light cues—in relation to phrases of music and sound cues. These elements were coordinated and synchronized during technical rehearsals, which occur at the very end of the scenic design process. In the next section, I step back to the ideation phase of the design process, in which the musical score of Eugene Onegin influenced my original design concept for the stage.

EUGENE ONEGIN: INCORPORATION OF MUSIC AND STATIC VISUAL DESIGN

When I began work on the scenic design for the Butler Opera Center's 2019 production of *Eugene Onegin*, I was able to investigate how the principles used by Kandinsky and Klee could influence the overall aesthetic of the scenery. In this production, Tchaikovsky's musical score directly influenced the physical shape of the scenery I designed. In an early draft of the set, the visual aesthetic was based on historical realism inspired by the words in the libretto and stage directions. The stage director asked the team for something more abstract, and I turned to the music of the score for inspiration.

In *The Dramatic Imagination*, Jones writes, "There is no formula for inspiration. But to ask ourselves, why did that artists do that thing in that particular way instead of in some other way? is to take the first step toward true creation" (88). I asked this question of Tchaikovsky's opening theme. The melody in the overture seems to be characterized by its downward trajectory, but the pitches do not move down in a straight line. Rather, they circle back up, then continue down again in a three-steps-forward-two-steps-back sort of movement. I can feel that the music creates the sensation of this motion regardless of what it looks like in sheet music form. The cyclical nature of this melody is also evident in that it repeats, played again by different instruments and often in different octaves. So I took this musical idea and created a giant, sweeping swirl of pieces of paper spinning down from above in a helical spiral that blends into the floor (see Fig.5).

Figure 4.2: Tatiana's Bedroom from: *Eugene Onegin*. By Pyotr Tchaikovsky, directed by Dr. Robert DeSimone, The University of Texas at Austin Butler Opera Center, 2019. Photographer Amitava Sarkar.

This visual interpretation of the musical theme, which incites the opera, frames the world that the characters live in. Before I considered any temporal ideas of transition or movement, I used Tchaikovsky's composition to inspire line, shape, and use of space that visually illustrates the musical themes of the overture.

Tchaikovsky's opening theme is an excellent illustration of music's ability to tell a story. The emotion conveyed in the music is the story of the opera, just as the text in the libretto tells a story. Thomas explains music's effect by saying "the experience of music in theatre… carries communication. It is not the communication [of ideas] itself" (64). By this, he means that music effects the audience on a more instinctual, emotional level rather than sharing specific ideas like a simple sentence of words strung together. McGilchrist

makes a similar claim: “It is important to recognise that music does not symbolize emotional meaning, which would require that it be interpreted; it metamorphises it—‘carries it over’ direct to our unconscious minds” (96). Thomas and McGilchrist describe a different, more empathetic way of knowing music than of knowing facts.

Consider *Eugene Onegin* as an example: by reading the libretto, we will learn that Tatiana fell for and confessed her love to Onegin, who then turned her down and later shot her close family friend, only to return years later and realize that he loved her all along. Listening to a recording of the orchestra without the lyrics will not communicate those factual details to an audience. But it will, as Thomas says, “‘incite,’ ‘arouse,’ or ‘immerse’” the audience in the story being told (64). Rather than finding the details of plot in music, he writes, “we are more interested in how music affects our ‘soul’ (whatever that is)… [and] transport[s] us into the world of the play” (Thomas 64).

I find that my abstract design does something akin to music. Clearly, I can make sense of the reasoning behind my design, but did the audience understand that those melodies are represented in the design of the set? There is a chance that someone may have made that connection, but it seems likely that most did not. That said, I imagine they saw the sweeping framework of the set and understood the general emotional significance that I intended for it to convey, which is the feeling I experienced by listening to the melodies in the overture: a sense of being stuck in a cycle, a downward spiraling trajectory, an urge to reach up into the sky while being grounded below. These are all emotional themes that are central to the story of the opera, that *are* the story of the opera. It is no wonder that the music arouses these feelings in the audience, and it seems only logical that these themes should be aroused by the visual design as well. In fact, Jones theorizes that we can think of scenery as *being* musical accompaniment for a production:

> We may put aside once and for all the idea of a stage-setting as a glorified show-window in which actors are to be exhibited and think of it instead as a kind of symphonic accompaniment or obbligato to the play, as evocative and intangible as music itself. Indeed, music may play a more important role than we now realize in the scenic evocations of the future. (76)

Perhaps he would have considered my design for *Eugene Onegin* as evidence that he was correct.

Now, a set designed for an entire opera based on one melody line is potentially too focused or limited in scope. In a design like this, it was important for me to ask myself whether the set served the *entire* story or just that one musical phrase. I found that in this case, the look I created works for the entire opera because that single melody expressed many themes that are present throughout the story.

Once I had conceived the basic structure, I did consider movement and the timing of the music in Eugene Onegin as well. The entire helical spiral of paper pieces was built on a turntable so that it could rotate at various speeds and to various positions. In order to align the visual design with the auditory design, I met with the director, lighting designer, and media designer to listen to the music and establish when the set would move based on the feeling of the music at the end and beginning of each scene. As in *The Merchant of Venice*, minor adjustments were made during technical rehearsals to ensure that our timing was correct.

Throughout the process of designing this set, I worked with a team of two other student designers and the stage director of the opera, who was also the director of the Butler Opera Center. He has spent many years studying, performing, and directing music, and therefore thinks in musical terms. My discussions with the stage director were smooth since I was able to communicate with him in terms of music; we talked about when the set would move in relation to specific measure numbers and musical moments (e.g. “the crescendo,” “the shift in the overture,” “Lensky’s aria,” etc.). My background knowledge of music from

high school music lessons and musical theatre performance was enough to provide a common language that helped us figure out the most important moments in the play.

Our lighting designer, though not as well-versed in musical jargon, was able to feel the music. We had several meetings in which we would listen to the soundtrack of the opera to decide when certain curtains would fly in and out, or when and how quickly the turntable would begin to revolve. Though he could not verbally explain why he agreed or disagreed with the moments we selected, he could tell when the timing felt "right" or "wrong." This tells us two things. First, even if designers do not have a background in music, they can still participate in conversations about how music relates to their design. In the case of *Eugene Onegin*, the lighting designer was instrumental in deciding how our scene changes would fit with the music in spite of his lack of musicianship, and this improved our collaborative process. Second, audience members without musical experience will likely feel the shifts and changes in music. This lighting designer was a great example of the average audience member, who will likely not have as much musical experience as me or the stage director. Even if the audience cannot explain what is happening in musical terms, they can usually still feel whether the accompanying visual picture is right or wrong. This is evidence of Thomas's idea that music affects our "soul" in some undefinable way, and it is also evidence of Tsung's claim that "spiritual content" is communicated by "sympathetic vibration" between what we see and what we hear.

This production provided evidence that music can be used not only in coordinating with other members of the creative team, but also in the initial conceptualization of a visual design. These experiences also indicate that the cohesiveness (or lack thereof) between the auditory and visual elements is evident to the audience, whether they can explain it or not.

PRE-EXHIBITION FINDINGS

During this research process, I found context supporting my original hunch: I was able to use music as a way of inspiring a visual aesthetic, and when they were in sync, the audience could feel the difference. Though the logical reasoning behind these choices might not translate directly to every audience member, the synchronicity of their communication will increase the impact of each moment, helping the audience to understand both the story's plot points and its emotional journey.

After this background research and reflexive analysis of my own work on *The Merchant of Venice* and *Eugene Onegin*, I wondered whether other visual designers would also benefit from attempting to design from a musical perspective. This inspired the idea for my thesis exhibition, which allowed other visual artists the opportunity to try this idea out for themselves. The next chapter explains how I designed this exhibition and the accompanying research study.

Chapter 5: Exhibition Methodology

Implementing the Research Questions

Based on the research in the previous three chapters, I knew that I had personally used music to inspire visual design. I also found evidence that there are other people who feel this is an idea worth pursuing, and that a few artists and designers have put these ideas into practice. Finally, I found evidence that visual designers using music as a source of inspiration can create designs that are more cohesive, and these results can even translate to better audience comprehension, even if only subliminally. In order to put these ideas to the test, I created "Hearing As Seeing," a visual art exhibition investigating the question, "What is the relationship between what we see and what we hear?" from both the artists' and audience's perspectives.

"Hearing As Seeing" (or as I will refer to it, the "Exhibition") was an experiment in which I gave a group of artists and designers (the "Artists") a single instrumental song (the "Song") and asked them to use it as a prompt to create a piece of visual artwork. I then installed the artwork in a gallery, inviting the audience to compare the various pieces in the Exhibition to see whether they saw similarities in the way the Artists interpreted the Song. Finally, I interviewed the Artists in order to see whether the intentional incorporation of music was useful to their ideation and design process. In this chapter, I explain in detail my methodology behind the creation of the Exhibition and the survey/interview questions.

SONG SELECTION

In order for the Exhibition attendees to be able to comment on the relationship between the Song and the Artists' visual artwork, I needed them to be able to hear what the Artists heard quickly and easily. I thought about assigning each Artist a different song in order to see the effect of the differences in the music. However, using multiple songs would have complicated the experience for the audience, requiring them to put on a different set of headphones for each piece of visual art. I also realized it would be difficult to know what differences were caused by the Artists' personal style and which were caused by the song they were assigned. I wanted to simplify the process as much as possible and remove as many barriers to audience participation as I could. Therefore, I chose to limit the variables at play and base the entire exhibition on one song that would play aloud on repeat in the gallery space.

Since I attempted to get the Artists to create visuals based purely on music rather than language, I determined that the ideal song for this project would be purely instrumental, meaning that it does not include any lyrics. In a quick trial run of this idea, I played Debussy's "Clair de Lune" and invited classmates to "draw what they heard." One student told me he drew a moon because he recognized the song and knew that its title meant "moonlight" in French. While the drawing was an excellent visualization of the *title* of the song, it did not necessarily have anything to do with the music. From this trial, I learned that any preconceived notions of the Song could cloud the Artists' perceptions, as could knowing what the Song was called. I needed a song that none of the Artists or audience members had heard before, and I couldn't reveal its title.

Other than these two criteria, I needed a way to narrow down the seemingly infinite number of possible instrumental, unfamiliar songs. I wanted to avoid skewing the experiment's results by picking something that I personally liked or that was so abstract

that it proved cognitively inaccessible to either the Artists or the audience. In order to remove my own influence as much as possible, I consulted with several sound designers and composers. In consultation with Carolina Perez, professor of sound design and composition from UT Austin's Department of Theatre and Dance, I determined that the ideal song would include a variety of musical elements that the Artists might latch onto, whether intentionally or subconsciously. Together, we developed this list of ideal attributes:

- Tempo with a clear beat
- Recognizable as fast or slow
- Variety of timbres, including both electronic and acoustic
- Melody
- Harmony
- Use of theme/Motif
- Percussion instruments
- Tonal
- At least one key
- Range of pitches, high and low
- The genre should not be too recognizable
- Roughly three minutes long
- Articulation—staccato and legato

Once I had this list, I reached out to several local composers to see if they were interested in composing a new song, providing me with one they had already composed, or suggesting a lesser-known song in the public domain that would fit these qualifications. Michael Zapruder, the sound designer and composer who worked with me on the 2018 UT production of *The Merchant of Venice*, sent me several options that he thought might work,

and he allowed me to choose one. After listening through the options, I selected one of Zapruder's songs (Zapruder).

SAMPLING

While working on song selection, I was also determining how to select participants for my research study in a way that provided as diverse a pool as possible within the boundaries of the project. I first sent invitations to participate in the Exhibition to all graduate students in the UT Austin Department of Theatre and Dance as well as UT's Studio Art MFA students from the Department of Art and Art History. I then invited any artists I personally know. The Exhibition was not juried in any way, meaning that anyone interested in participating was admitted.

After initial interest, there was some attrition, which I had anticipated. About 30% of those artists who responded with interest in the project knew they were unavailable or were unable to finish their artwork by the deadline I set. The remaining Artists who finished and submitted artwork for the Exhibition were then invited to participate in the research study, and all participants agreed to both fill out the survey and be interviewed after their artwork was finished. I also created my own piece for the Exhibition. Since the point of the Exhibition was to invite other artists to test my research findings, I did not consider myself part of the sample for the research study. Therefore, I did not answer the interview questions or include my own personal reflections in the Exhibition Results chapter. I finished the interview process with all the other Artists except one, with whom I was unable to schedule an interview.

Due to the boundaries of limited time, reach, and budget, this convenience sampling seemed to be the most effective way of finding participants for the Exhibition and research

study. Since I was already aware of the artistic background of most of the Artists, I was also able to ensure that my sampling was purposive in terms of experience level. Artists I sampled included hobbyists, graduate-level art students, professors in art and theatrical design, and professional artists. I also purposively selected artists in order to include people who typically work in a range of visual media. I recruited artists who create not only 2D work in graphite, pastel, ink, photography, and other media, but also 3D work in installation sculpture, mixed-media theatrical design renderings, textile art, and others. While I did reach outside of the UT Austin community to sample regions from outside of Texas, I would have preferred to sample artists from an international pool with diverse backgrounds in terms of ethnicity, gender, class, etc. if time, reach, and budget had allowed me to do so.

I invited participants via an email with the following instructions:

> This exhibition will explore visual art inspired by sound. I'm looking for you to create a visual artwork in any medium that is inspired in some way by this song. I don't want to give you any more specific instructions than that—just use the song as your 'prompt.' The pieces will be displayed together with the song playing in the exhibition space, and the audience will be invited to respond to any connections they perceive between the song and the artwork. (T. Goodman)

A few artists followed up with questions, asking for more specific instructions or whether a certain idea they had would be permissible. All of their requests felt achievable, so I attempted to approve any requests and deflect other questions without influencing their decision-making process.

INTERVIEWS AND DATA GATHERING

Without explaining it directly, I invited the Artists to perform practical action research on their own work by introducing the music as an instigating change to their own artistic processes. Therefore, it was important for me to help them define the context—the

artistic process they usually followed—in order to help them determine how the incorporation of music changed that process. Upon agreeing to create a piece of artwork for the exhibition, each Artist signed an Institutional Review Board consent form giving me permission to use their information in the research paper. They were invited to participate in a fifteen-minute, four-question survey (to establish context) and a half-hour, semi-structured interview (to reflect on any changes).

Before the Artists began work on their pieces for the exhibition, I asked them to fill out the Initial Survey. I designed this survey as a way to encourage the artists to think about their own artistic career and the way they approach their artistic process. Art and design are very subjective fields, and there is not necessarily a "right" or "wrong" way to approach a project. I felt it was unlikely that all of these Artists had spent time thinking about what makes their own process unique or analyzing the way they make art. Therefore, this survey was an important way to initiate that thought process. This is what was asked in the Initial Survey:

> Describe the development of your artistic work. Where did you start? What have you done since then? Where do you see your career going in the future?
>
> Describe the body of your artistic work. What medium do you typically use? What does your art look like? What are you working on right now?
>
> Describe your process as an artist. What inspires your work, and where do you get ideas? How do you start a new piece?
>
> Describe your experience with music. Do you like to listen to music, and if so, what kind? Would you consider yourself a musician?

These surveys were administered electronically; though I told them the surveys should take around fifteen minutes, the Artists had as much time as they wanted to fill them out and were encouraged to write as much or as little as they wanted.

I had removed the title of the song and saved the audio file under the name "HEARING AS SEEING" to ensure that the song title would not influence the Artists' process. They were provided with a digital link to the file and given no further instruction as to how they should be interpreting the music.

As each Artist completed their piece for the show, I collected display information from them about the piece (size, medium, title, etc.) and scheduled their Interview. Interviews were conducted either over the phone or in person, and all interviews were audio recorded (for my own reference only).

In these semi-structured, in-depth qualitative interviews, I asked the Artists to describe their artistic background, reflect on how they responded to the song in their artwork, and analyze the way this project affected their process. The first questions were the same as I asked in the Initial Survey. I wanted them to re-answer these questions in order to get them thinking about their typical process and prime them for the more difficult analysis at the end of the Interview.

I also asked them whether storytelling plays a role in their usual work since I had a hunch that this may be a way that they found similarities between music and visual art. I considered asking them about storytelling in the Initial Survey as well, but I decided it was important for me to wait until after they had created their artwork in order to avoid priming them to try to find a story in the Song or create an intentionally story-based piece for the Exhibition. By only asking this question in the Interview after their work was done, I kept my hunch from influencing their artistic process.

Next, I asked them to analyze their own artwork through the following questions, with possible prompts in parenthesis:

> What was your impression of the music provided? (Did you consider whether the song tells a story?)

> In what way did you use the music provided as a prompt for your art in this exhibition? (Did you consider rhythm, melody, harmony, mood, tone, tempo, or some other musical element? Did you consider the "story" of the song?)
>
> How did you use color, shape, form, line, texture, or other visual elements for this piece? (Was it surprising? Was it challenging? Was it useful?)

Since the Artists had already described their *typical* process, the goal for this section was to describe their process for the Exhibition. In this way, I would be able to code their responses and make my own evaluation of how their process had changed. However, I also asked them to perform their own reflexive analysis. After priming them with the questions above, I asked:

> How successfully do you think you translated the song visually? Why?
>
> In what ways did your approach to this Exhibition differ from your usual artistic approach? In what ways was it similar? (Was it surprising? Was it challenging? Would you try it again?)

These questions were intended to get the Artists to speak to their own action research by explaining how the music changed their process and whether they felt like the results were successful, useful, and/or worth repeating. I clarified with each Artist in the interview that I did not have my own definition for what constituted "successful" artwork or "translation" of the Song. I wrote the question intending to allow each Artist to interpret it in their own way. At the end of each interview, I asked the Artist, "Do you have any other comments or questions? Anything else I should know?" and responded as appropriate.

EXHIBITION DESIGN

I selected the time and location for the Exhibition in order to provide access to the students and faculty in the Department of Theatre and Dance at UT Austin. The Exhibition ran January 21-26, 2020, which was the first week of classes during the Spring semester of

UT's 2019-2020 academic year. The Exhibition was located in the Lobby of the B. Iden Payne Theatre, which is in the F. L. Winship Drama Building on campus at UT Austin. Though the gallery was free and open to the public, I chose this location with the specific intent that the University's theatre artists (undergraduate students, graduate students, faculty, and staff) would have easy access to the exhibition. Almost everyone involved in the Department has classes and rehearsals in this building each day. By housing the Exhibition in the drama building and keeping it open from 9am-8pm, theatre artists would theoretically be able to drop in and walk through the gallery between classes, before rehearsals, or on their way to other events. I did this for two reasons: first, I wanted to share my ideas specifically with theatre students, who would potentially be interested in applying these ideas in their theatrical practice; second, I wanted feedback on my ideas from people with experience working in collaborative arts. Though I was focused on theatre students, I also sent invitations to UT's Art Department and School of Music, and I sent the information to a few local publications.

I designed the Exhibition setup to allow the audience to compare and contrast the visual pieces on their own. Fortunately, all of the pieces I received from the Artists could be mounted on display boards. Since the shape of the Lobby prevented me from creating a perfect circle with the display boards, I arranged them in a large ellipse so that viewers could theoretically stand in the middle and see all the pieces at once. The only exception was a video piece, which was played back on a TV already mounted to the wall of the lobby. To avoid accidentally curating the order of the artwork according to my own interpretations, I hung the pieces in alphabetical order by the Artists' last names. See Appendix B for photographs of the Exhibition setup.

I asked the audience to find connections not only between the various visual artworks, but also between the visual art and the music itself. This required that attendees

were able to listen to the Song as they surveyed the work, so I invited Sound Designer Jessica Sell to design a way for this to happen. Sell programmed a looping QLab file that played the Song on repeat, and she designed a speaker setup that ensured a consistent, high-quality audio experience no matter where the viewer was standing.

At the entrance of the gallery, I included some basic information about the project (see Appendix C). The panels I wrote were inspired by text I have seen at museum exhibits before; these blurbs introduce a curated collection of artwork without telling museumgoers what they should think about each piece. My goal was to give the audience enough background information about my research to allow them to provide informed feedback without clouding their interpretation as outside observers.

I also included a small table with Audience Feedback Surveys, which attendees were invited to fill out and turn in. These questions were intended to help me define the relationship between what we see and what we hear by providing a chance for the audience to explain their reactions to the Exhibition. I thought they might use specific language to compare and contrast the elements inside the gallery, or they might refer to storytelling aspects they found. I wanted to give them enough structure to respond, but not to prime them with my own specific ideas. The questions on the survey were:

> What similarities or differences did you notice in the visual artworks?
>
> What connections did you observe between the music playing in the exhibition and the visual artwork?
>
> Did the visual artwork allow you to understand the music in a different way, or vice versa? If so, how?
>
> Any other comments or questions?

Chapter 6: Exhibition Findings

THEMES

The exhibition featured 23 art pieces in a range of visual media including various "traditional" 2D media (including graphite, pen and ink, watercolor, and others), photography, video, digital prints, and more. Images of the individual pieces can be found in Appendix A. By comparing Audience Response Surveys and personal interviews with the Artists, I have found several prevalent themes—including lightness, movement, and nature—that suggest that both the Artists and the audience were able to define a relationship between what they saw and what they heard.

While there was visual variety between the pieces, audience members were able to find trends and similarities between many of the pieces. I collected 14 responses in the anonymous Audience Response Survey. One response mentioned that "every piece had a sort of bubbly effervecince [sic] and calm color story going on…" Many other responses used phrases to describe something similar, such as a "lightness/joyful quality," "bright and hopeful," "white areas/brightness," and simply "brightness." In a similar vein, many mentioned that the ideas of freedom and movement were present in many of the pieces. I collected descriptors such as, "a lot of themes/associations around movement," "movement, fluidity and freedom," and "a sense of freedom;" two responders simply wrote, "movement." A third trend in the artwork was the appearance of nature or natural elements. Responders wrote phrases like, "a big emphasis on clouds, water and sunshine in nature were apparent in the majority of the art works," "a lot of them seem to be based outside," "lots of open—clouds," "travel, adventure, sunrise, nature," "a lot of clouds and trees present," and "Trees Mts;" two responders just wrote the word "nature." These three

trends, which I summarize as elements of lightness, movement, and nature, were the most common similarities between the artists' pieces identified in the Audience Response Survey.

Unsurprisingly, the elements of lightness, movement, and nature were also common trends in my interviews with the Artists. Several artists identified natural elements right away when listening to the song. For example, Camie Goodman said, "immediately, it [the Song] kind of started out slow and gradual like the sun coming up, so that was the very first image I had in my mind." Goodman immediately found the sunrise, a natural element, to be a good way to visually communicate the Song. The same goes for David Bjurstrom, whose artwork was aptly titled, "Sunrise." He said, "I listened to it [the Song] the first time, and I immediately knew what my drawing was going to be. It surprised me." Other artists were inspired by different natural elements. Stephanie Copenhaver found a forest to be a good metaphor: "I listened to it a couple times… when I was listening to it…, it kind of felt like you're walking somewhere. And then you see, like, in my mind, it's like a forest…" Sarah Rahaeuser's piece was a portrait of herself and her daughter looking at a leaf outdoors. She said she added the leaf specifically to make sure the focus was on a "natural element," because, "really, the first image that popped into my head was a dawn. And so I felt that the piece would need to be something that wasn't too heavily worked, and probably… a natural element based on the way that the music felt to me." While nature did not necessarily play a central role in every single piece, it was certainly a trend both in how the Artists interpreted the music and in how the audience interpreted the pieces.

Many artists also mentioned the elements of lightness and movement in their interviews, and to some degree, these ideas seem to be interconnected. Jesse Easdon said that the song featured a "feeling of exploration, in a way, that… had lightness and breath to it that was refreshing." He describes not just lightness, but lightness within exploration.

This relates to the ideas of fluid movement as described by the responders to the Audience Feedback Survey. Emma Seay Craig mentioned that the song felt "like someone getting ready to do something and started, like, just moving throughout space…" The way she describes this movement seems to imply a level of spontaneity, which seems to carry more lightness and fluidity than premeditated movement. Kelly Kassir also commented that the song sounded like a person on a transition or journey, saying "when I listened to it, it was just super floaty, and so obviously my brain automatically went to space…" The "floaty" quality of an anti-gravity environment is definitely an indicator of both lightness and movement.

These results show that the pieces in the Exhibition were able to communicate at least some aspects of the Song to the audience through various visual media. Some of the key ideas that the Artists heard in the Song are also some of the key ideas that the audience saw in the pieces in the Exhibition. I do not have a way to quantify these results. My surveys were geared towards qualitative data and therefore featured open-ended responses; rather than asking the audience questions like, "Did you find a sense of lightness or nature in the artwork?," I allowed them to think of their own descriptors. This made the coding and interpretation process more difficult, but it also kept me from priming audience members with themes that I think should exist, which could have skewed their responses. That said, I find convincing evidence of a relationship between auditory and visual stimuli in the unprompted similarities between the audience's and Artists' responses.

COHESIVENESS

What does "Hearing As Seeing" tell us about cohesiveness in theatre? One of my predictions based on my own experience was that visual designers who listen to and

incorporate the music of a play, musical, or opera are likely to end up with a product that is more cohesive than those who do not listen to the music.

Something considered "cohesive" is a *united whole*. This principle can be very obvious in visual design. For example, if an actor's suit blends into the upholstery of his character's favorite chair, the design is not cohesive. These design choices are not *united*; rather, the lack of communication between the costume and scenic designer cause the design elements to confuse the audience. Bergner points out another humorous example of the necessity of scenery/costume collaboration, saying that his "fellow designers have a huge role in shaping space. With regards to costume, you can think of the silhouettes of eighteenth century gowns and how they resemble walking statues with enormous spheres of influence. These gowns certainly determine the sizes of doorways, etc." (17). Scenery and costume are not the only two elements that can be cohesive. In Chapter Four, I provided more examples from my experiences working on *The Merchant of Venice* and *Eugene Onegin*; the creative team made design decisions based on whether the elements would work together in harmony or cause distraction. And aside from being united in their storytelling efforts, the elements need to tell the *whole* story. Any part of the story that does not come across in one element can be filled in by some other element. These aspects make up cohesiveness, presenting the story as a united whole.

I find that the Exhibition is a good example of both the *united* aspect of cohesiveness, and the *whole* aspect. Each Artist "collaborated" with the composer in that the visual artwork was based entirely on the Song. By my definition, this satisfies the *united* aspect of collaboration. I attempted to discover whether this resulted in a "*whole* story" by asking the audience whether the artwork in the exhibition allowed them to understand the music in a different way, or vice versa. This was a leading question, so I feel the need to consider the responses with a grain of salt. I assume that priming the audience in this way

invited them to make inferences they might not have noticed without my prompting. That said, many respondents did mention evidence for this cohesion. One audience member responded, “Yes! I loved when someone said it was like standing next to someone you love. I viewed every painting that way w/ the music.” Seeing the visual artwork as existing in relationship to the music is great evidence that the Exhibition created a *whole* story. Another audience member found that considering the music and visual artwork in relationship together revealed a new theme: “It kind of influenced a desire for nostalgia—most of the art felt very personal so I wanted to also overlay the song with my own personal experiences in a more viseral [sic] way.” For both of these audience members, it seems that intentional consideration of the music in relationship with the artwork served to deepen their understanding of both visual and auditory media.

Some of the audience found it easier to connect to the artwork, which allowed them to consider the music in a new way. One audience member explained, “I found that the visual artwork felt more like a journey overall and helped me feel like the music told a story.” Another said, “I didn’t really connect nature to the music, but I saw many artists who did, which gave me that different perspective.” A third said simply, “The visual artwork gave the music meaning and purpose.” Each of these responders were able to see the music in a new light based on the visual elements present. This is an example of one element filling in a gap that the audience members did not immediately perceive in the music, resulting in a united whole.

This reminds me of my research on synesthesia, through which I discovered that synesthetes find that their cross-modal associations to be extremely useful in their daily lives. Van Campen notes synesthetes’ ability to remember a phone number based on the color they associate with each number, which results in improved comprehension and memory. The audience respondent mentioned above felt that their understanding of the

song was improved by the context of the visual art. Though this is by no means a neurologically synesthetic experience, the audience member mimics the effect and benefits by intentionally correlating the sight and sound together.

Finally, one audience member pointed out that the music served as a common denominator for the visual artwork: "The music helped connect all the visual works, which otherwise would have felt disjointed." This makes perfect sense. Though the Artists were each "collaborating" with the composer by listening to the Song, they were all working in isolation from each other. The pieces exhibited many similarities as discussed above, but I imagine there would be even more similarities if the Artists had gathered to discuss the Song, share ideas, and provide each other with feedback like creative teams do in theatre. However, as the audience member notes, each piece *united* with the Song itself.

Though it seems easier to determine whether visual elements have been cohesively designed, I find that audience members were able to determine whether the Artists' and composer's work joined in a united whole in this Exhibition. In applying this to theatrical design, I find that it becomes useful information for visual designers. If they want their audiences to experience cohesive productions, visual designers can—and should—consider whether their scenery, costumes, lighting, and video content integrate with composition and sound design to form a united whole.

PROCESS AND FUTURE APPLICATION

In general, the Artists articulated that their ideation process was changed by this project, but their design process and method of executing the artwork stayed the same. Though ideation and design are not necessarily sequential steps, it is still useful to delineate these two aspects of creating artwork. With the word "ideation," I am referring to the

process of coming up with and refining the idea that sparks the artwork. This contrasts with my definition for the word "design," which I borrow from my interview with Buchanan. He used the word to describe the thinking and planning process that happens between the initial inspiration and the creation of the artifact. Buchanan explained that his design process usually includes sketching his ideas in small "thumbnail" drawings and testing different compositions. In his case, the design process is physical, and it involves more literal thinking (e.g. Where does each element belong on the page?) than the more conceptual, abstract process of ideation (e.g. What is this piece about, and what elements are needed to communicate that?). Teasing out the difference between ideation and design is useful because many Artists had different responses regarding how the Exhibition premise affected the two aspects of the process. Bjurstrom articulated the general trend in his interview, saying, "I think the genesis of the idea [*ideation*] was different than normal. But the process and the elements that I used [*design*] were kind of the same as I always do."

Generally speaking, using music as inspiration for a visual piece was a new experience for the Artists. In Bjurstrom's case, getting an idea for his artwork from music was unique even though he still created a graphite drawing using the same materials and methods he usually does. Most other artists provided similar responses. Miller claimed that she "never in [her] life used music as a starting point for making an image," usually creating her oil paintings based on something "more cerebral" [and less kinesthetic]." Kassir, whose line drawings are most often inspired by quotes from strangers or movies, said that "using music was a different beast" than using words. But as Bjurstrom did, most artists used the same materials they normally used and applied them in a way they usually would—Miller created an oil painting based on research imagery as she normally does, Kassir sketched

out her black-on-white line drawing as she normally does, and most others followed their standard process of selecting a medium and creating the artwork.

Aside from just determining the idea for the artwork, the Song changed the scope of the ideation process for several artists. Some (Bjurstrom and Goodman as quoted above, as well as others) listened to Zapruder's Song and immediately knew what their piece would be. In this case, the scope of the ideation process seemed to be very narrow. Knowing what the piece was about and what elements were needed to communicate that idea, the Artists were quickly able to turn their attention to the design and execution of the artifact. Emma Seay Craig also thought that using the music as a prompt focused her ideation process. She said, "[the music] helps to keep me from trying too many things… [I] set limitations for myself based on, 'What is it you actually associate with this piece of music?'" This allowed Craig to move in a more linear path towards the completion of her piece.

Where some found that the music streamlined their ideation process, others felt it widened their options. Sarah Mosher was a great example of this. She said, "In part, this was just a much more, like, conceptual piece, like I was able to layer meaning onto it, but it didn't inherently have specific meaning to start with… it was really nice…" This allowed Mosher to spend time researching and exploring a wide variety of conceptual and visual elements to include in her artwork. CC Calloway also implied that her ideation process was more open-ended when she told me, "I made up my own [story]… I completely, like, put it onto myself…" Calloway and Mosher both used their preparation for the Exhibition to try a more overtly introspective and explorative process to come up with their ideas for their pieces.

Though these changes to the ideation process seem to be opposite, both seemed to be a positive aspect of the Exhibition for the Artists. The gut responses from Bjurstrom and

Goodman as well as Craig's more focused approach seemed to launch them confidently towards a finished product. Calloway and Mosher's more expansive ideation processes allowed for more exploration along the way. Each Artist explained these differences to me in a positive way rather than indicating that they were a burden to their work.

I have experienced situations where either narrowing or widening my ideation process would have been helpful in my scenic design career. There have been times when I could have used a gut response to quickly lead me towards a specific solution, especially when deadlines were looming. But there have also been times when my initial idea left me stuck in a rut, and I needed to find something that could widen my focus to include other options. The reactions from the artists support my hunch that adding a musical element could be a very useful stimulus for visual designers, even if just for the sake of shaking things up. Even if music is not the starting point for the entire design, listening to the soundtrack of a musical or some underscoring provided by a play's sound designer might be just the thing to nudge a visual designer's ideas in a productive direction.

Though there were often changes in the ideation process, most Artists told me that their design process was essentially unchanged by using music. Buchanan still sketched out his ideas before he began creating his piece. Mosher said that her design process was also unchanged. After writing notes, drawing sketches, and working through her ideas, she created the piece all in one sitting. "That's how I usually do it," Mosher said; "I started a long time ago, I know exactly what I'm doing, I just haven't put my hands on it yet [because] I need to be present with it and uninterrupted." Annie Ulrich also felt that her ideation process was different while her design process remained the same. She told me, "Usually the prompt isn't music… [but] I do think the… thinking-through process was similar to what I already do, like, 'Here's an idea. What best represents that to me?'" Buchanan, Mosher, and Ulrich were all able to benefit from the change in their ideation

process by using their "normal" design process to seamlessly incorporate musical ideas into their workflow.

Not all responses to this question fit neatly into the ideation or design categories. Some artists alluded to an intangible difference in the process. Megan Williamson said of her drawings, "they're not any different from the way that I draw anyway, but somehow that [the Song] was an added element." Like the Artists mentioned above, Williamson did not describe this "added element" as a hindrance. Instead, she said the process served as a way of focusing her attention on the work. She knew that the music had some kind of subliminal effect on her focus, but her use of the word "somehow" implies that the effect was not entirely articulable.

Regardless of whether *describing* the experience of incorporating music was possible or beneficial, the responses from the Artists indicate that the experience itself *was*. This implies that this type of process could be useful for the Artists in future work and/or useful for other artists. Changing the way designers come up with ideas does not mean that they will need to completely reinvent everything they know about design. Rather, incorporating music is like adding a tool in the designer's toolbox or providing a different way of approaching a new project.

And in fact, almost all of the Artists said the experience was something they would do again. When I asked them if they would, most of the Artists answered in the affirmative quickly and confidently; they hardly had to think at all to know that they would be willing to recreate this experience. Copenhaver was one of these Artists, answering, "Yeah, it was fun. I feel like I should challenge myself to kind of do that sort of thing more… it kind of stretched me to just kind of let my mind go with it, rather than finding that immediate answer." Javier Yep responded similarly, saying, "I think so… you know, I think I pushed myself… I really like this project. I think it was very thoughtful." A few found value in the

exercise but were less sure about whether they would recreate the experience. I saw this in Mosher's response: "Yeah, I think I possibly would. I qualify that statement by saying… I don't know that I would do it just myself unless something caught my attention." John Pleau was also in this camp, saying, "usually I wouldn't say yes… [but] the bottom line is, it was, it turned out to be a good, good experience." There were also a couple of Artists who enjoyed the exercise but did not feel that it was something they would attempt again. Craig said, "I don't know that I would do it again without prompting," and Miller's response was, "Would I use it in my own work? Probably not… there are more important things I want to have in terms of subject matter and space that I don't think a song would help me discover…" Though these two doubted that creating art based solely on music would fit into their day-to-day practice, I was pleased that they both seemed to enjoy the challenge. Perhaps the rest of the Artists will return to their toolboxes to employ this new musical tool on future projects.

FURTHER RESEARCH

Still, some questions remain. Was the lightness-movement-nature feeling described by the Artists what the composer was going for in the first place? In other words, did the Artists "get it right"? Is that feeling an interpretation of this specific song, or just the way all music feels? Would this Exhibition produce the same results in other countries? Though these questions are not the focus of this particular study, I have imagined many variations of other exhibitions that could help explore the sight/sound relationship from different angles.

First, I will address the issue of the composer's original goals by saying that this has no relevance to this study. The question I'm trying to answer is whether the Artists all

got the same information from the Song, not whether the composer effectively communicated through the Song. Asking whether the Artists "got it right" would be a better evaluation of the composer's skill than of the Artists', and it would further complicate this study. If I were trying to answer that question, I would have devised an entirely different type of exhibition. In fact, I never even asked Zapruder what his song was intended to convey or why he composed it in the first place. To this day, all I know is the title of the song.

And second, does all music convey a sense of fluid movement, natural imagery, and lightness? It is possible that that sense is just inherent in anything "musical." With only one song as the genesis for the entire Exhibition, I did not devise a way to test this question. Perhaps the best way to test it would be to recreate this Exhibition with several different songs, in which each Artist responds to each song, and audience members could compare and contrast each Artist's work as well as the pieces associated with each song.

However, this subject did come up in a few of my interviews. When I asked Jordan Gerow about the success of her piece, she mentioned that she included some ink spatters in her work not because they were prompted by the music, but because she felt they were necessary for the visual composition. She explained that, "I don't think there's anything [in the music] doing that kind of thing. [Ink spatters] would make me think of… really sharp, sporadic pieces [of music], but this [song] wasn't really that." In other words, Gerow felt that there are other types of "sharp, sporadic" music that she would interpret with ink spatters, but this specific Song did not prompt that application. She also mentioned earlier in her interview that she "wanted to do some of the ink because… it's not very choppy and sharp, the Song, so I didn't want something that was too much of that." She used the "fluid and soft" ink wash technique not only because the music felt that way to her, but because

other music might feel choppy and sharp. This means that her work intentionally contrasted with other types of music.

This song also featured musical differences as it progressed, and many artists picked up on these "sections" of the Song. Goodman pointed out the differences in types of music, and capitalized on the variety in her piece, "Dawn to Dark," which followed the arc of the song as if it was a timeline. She explains,

> …there's some sounds like guitar in there where it's just kind of strumming along, and that felt like a walk in the park to me. It's smoother feeling… Then… there's one part in there where it kind of does some little sharper sounds later in the piece, and so my clouds turned from soft swirls to sort of square shapes because… the sound was sharper, so that reflected in the design.

Goodman implies that a whole song of "sharper" sounds would have resulted in a piece with many more square shapes, whereas a song featuring only "smoother" sounds would have resulted in only "soft swirls." Goodman and Gerow's comments indicate that certain sounds in the music inspired specific visual responses, which leads me to believe that the feelings of nature, movement, and lightness are not universal to all music.

One artist did mention an idea about this subject in an interview. Khristián Méndez Aguirre told me he would be curious to know, "if you give my image to a composer and have them respond to it with a composition, what would they respond to… What is it that stays? That's what fascinates me about adaptation, right, is what is consistent." I agree—it would definitely be interesting to compare Zapruder's original song with a new composition based on these artworks. Perhaps this is an idea for another future study.

Finally, a fellow student suggested that a similar project could be launched on social media, inviting participants anywhere in the world to share a post that features their song-based artwork and uses a hashtag or tags an account in order to digitally collate responses. Theoretically, this type of project could reach international audiences and help determine whether the results would remain consistent across borders and cultures.

SUCCESS

The process that the Artists experienced was similar enough to theatrical design that any successes discovered in this Exhibition are worth applying in theatre. In my interviews with the Artists, I asked them whether they felt they had successfully translated the Song visually. I was interested in determining whether their metric for success is similar to that of theatrical design, so I did not define what "successful visual translation" means for them. In their responses, many Artists indicated that they were not sure that the audience would "get" all of their design choices, but they felt confident overall that they had truthfully interpreted the Song. I find that this nuanced response is very similar to the theatrical design experience, which leads me to believe that the Exhibition methods are indeed worth applying to theatrical design.

Most Artists were confident in their choices. For example, Jason Buchanan said of his piece, "I felt that, that works really well. I feel like it translated, to me it translated really well…" In this affirmative response, I noticed that Buchanan used the qualifier "to me," implying that he does not necessarily know that his drawing "translates" for others. Some Artists, like John Pleau, communicated this idea more plainly. He said, "I think it's really going to be in the eye of the beholder… I think, 'Oh, that went pretty well. I like what I put together.' But you also may have people looking at it, going, 'What on the world is this guy trying to tell me?' I don't know [he laughs]." Like Buchanan, Pleau felt confident in his own choices, but unsure of what the audience's response would be.

Many Artists also implied that part of their metric for success included whether their artwork showed commonalities with other pieces in the gallery. Buchanan followed his original answer up with, "I can't wait to see everything up and see what kind of threads that might present themselves." This indicates that he determines success based at least in part on whether his piece is visually similar to other pieces in the Exhibition. Most of the

Artists followed these trends, telling me that they had diligently created a piece that translated their personal interpretation of the Song, but also expressing hesitancy in claiming that it was universally successful.

Does this lukewarm response mean that I should shy away from suggesting that the premise of this Exhibition could be applied in theatrical design? To answer this, I had to consider how we determine success in theatre. As designers, we typically employ a similar process as the Artists did in this Exhibition. A source of inspiration, (i.e. a script) is given to us, and we create a design based on that inspiration within certain parameters. Along the way, the metric we use to justify design choices is whether or not each decision helps to clarify the story. However, this "story-ness" is an unquantifiable quality. Even if a design choice is inspired by story, each audience member will have a nuanced interpretation, and they may or may not "get" what the designer hoped they would. Oftentimes, we ask other members of the creative team for their reactions to our work during the design process as a means of gauging whether the audience will understand it. Rick Lorig answered the "success" question in a way that shed some light on this subject. He brought up what he calls "artistic truth," explaining that "the work itself isn't really justified… until an audience member looks at it and sees it… If they see it, and they are like, 'Yes, I feel like this is what I'm hearing,' that they'll know better than I will whether it's successful." In his work, Lorig claims responsibility for creating a piece that truthfully represents his own interpretation of the Song, but he puts the responsibility of determining "success" squarely on the audience's shoulders. This is a great summary of how we approach theatrical design: though we may bounce ideas off of our collaborators and receive feedback from them throughout the process, there is no real way to know how successful a design is until the proverbial curtain rises on opening night.

So, I do not think we as theatre designers can measure success any more precisely than the Artists who participated in the Exhibition. The scenario I provided them with may seem like a test with a correct answer. After all, their fellow Artists created art based on the same source material, and I asked the audience to look for visual similarities between the pieces in the Exhibition. As they indicated in their responses, success is actually much more nuanced than that. This is like when a designer begins work on a new production of *Cat on a Hot Tin Roof*. There will very likely be some common threads between this designer's set and all the *Cat on a Hot Tin Roof* sets of past productions, but the degree of similarity does not correlate to the degree of success. Designing a set that looks the same as another one is both boring and a violation of copyright law. Rather, each production is the result of one person putting a unique interpretation out into the world—as truthfully as possible—and asking the audience to meet them halfway.

The parallels between the "Hearing As Seeing" process and the theatrical design process indicate that the experiences of the Artists could translate to theatrical designers. The Artists' own confidence in the truthfulness of their design choices leads me to believe that their use of music as a source of inspiration resulted in a successful end product. This means theatrical designers could also create successful end products by using music as a prompt for their own design work.

CONCLUSION

Producing the "Hearing As Seeing" exhibition has strengthened my belief in the importance of visual and auditory artists working together in collaborative spirit. Both the Artists and the audience were able to show evidence of a relationship between what they saw and what they heard by finding similar themes in the visual artwork and the Song.

Respondents were then able to use the visual artwork to better understand the music (and vice versa), illustrating that auditory/visual cohesion is not only possible but also effective. It stands to reason that visual designers—who rely on cohesion to effectively communicate story—would benefit from employing this type of approach with their auditory designers even more than solo artists producing standalone artwork. Many of the Artists participating in the Exhibition found that visualizing a Song was a useful way to stimulate their own ideation process that easily integrated into their own method of designing and creating work. In reflecting on their own work, they felt that it was successful in terms of artistic truth, and most said they would be willing to do it again. I hope that the positive experiences of these Artists inspire theatrical designers to follow suit.

Appendices

APPENDIX A: ARTWORK IMAGES

Figure A1: Bjurstrom, David. *Sunrise.* 2020. 10”x60”, graphite on Claybord panel.

Figure A2: Buchanan, Jason. *Cerulean Harvest*. 2020. 10”x7”, graphite and pastel on paper.

Figure A3: Calloway, CC. *The Reaper*. 2020. 11”x15”, Risograph print on cotton rag.

Figure A4: Copenhaver, Stephanie. *Wonder Journey*. 2020. 11.5”x14”, digital photography overlays

Figure A5: Craig, Emma Seay. *Untitled*. 2020. 28”x22”, ink and watercolor on paper.

Figure A6: Easdon, Jesse. *O-Scope (Live)*. 2020. Household items.

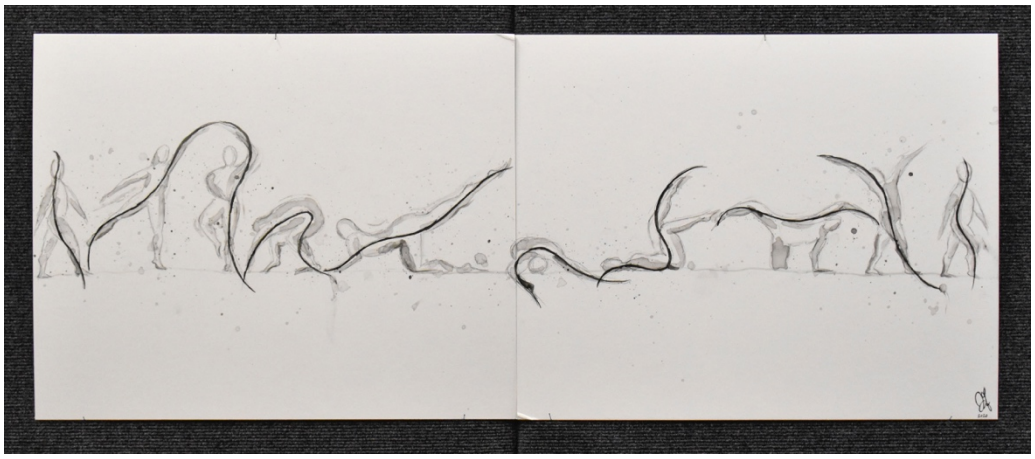

Figure A7: Gerow, Jordan. *Movements*. 2020. 16”x40”, graphite, ink pen on illustration board.

Figure A8: Goodman, Camie. *Dawn to Dark*. 2020. 16”x55”, fabric/textile.

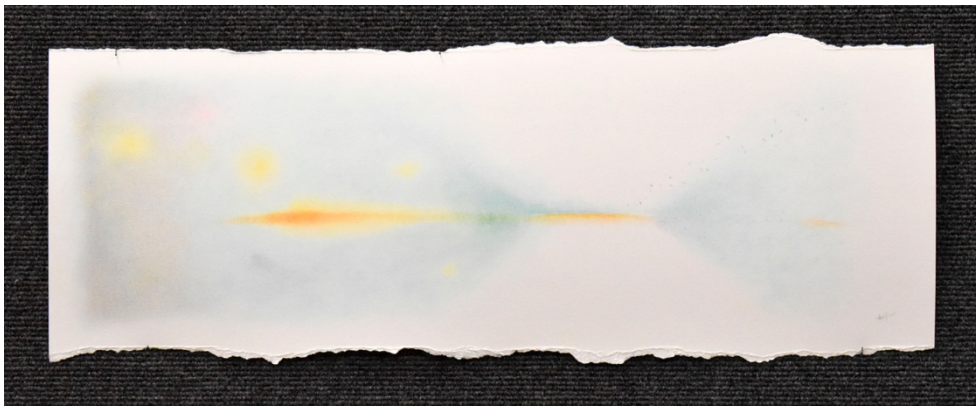

Figure A9: Goodman, Tucker. *Untitled*. 2020. 8”x24”, pastel on paper.

Figure A10: Kassir, Kelly. *take me home*. 2020. 11”x8.5”, digital print.

Figure A11: Lorig, Richard. *Morning Sky (Collected)*. 2020. 12”x16” with frame, mixed media.

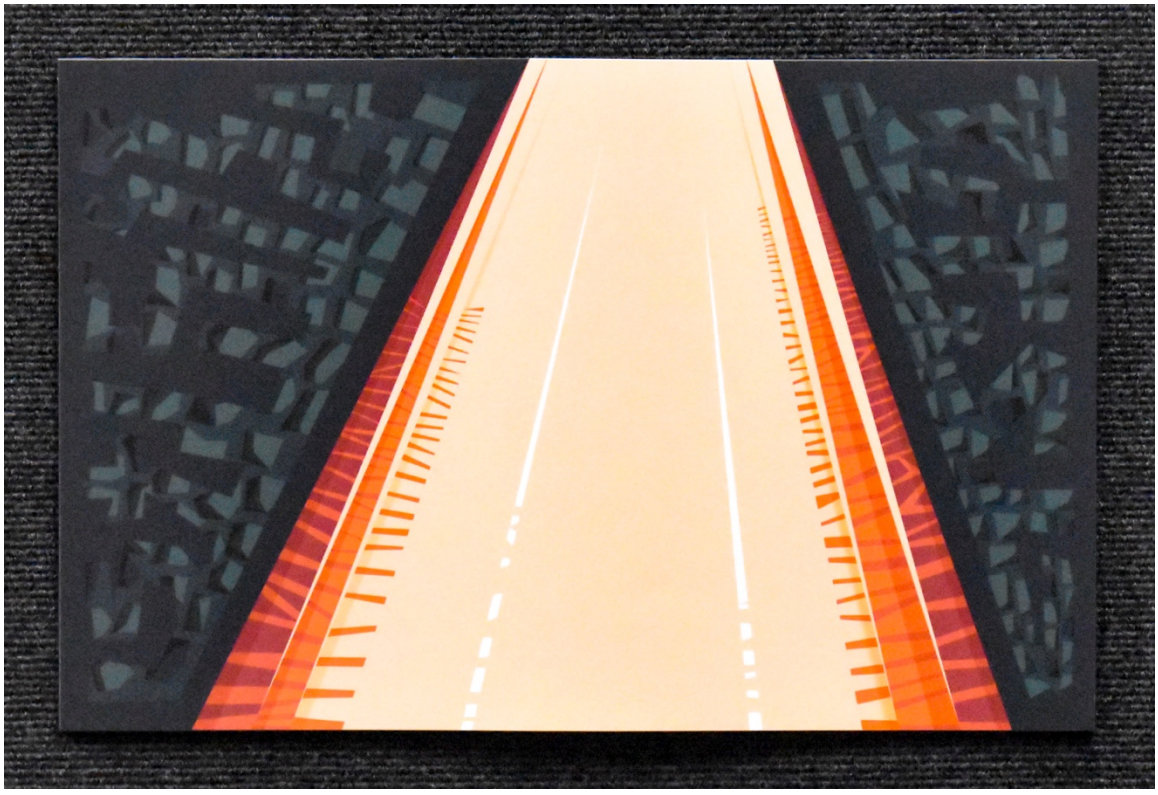

Figure A12: Méndez Aguirre, Khristián. *Listen and respond*. 2020. 11”x17”, digital illustration.

Figure A13: Miller, Erin. *Morning Walk*. 2019. 12”x24”, oil on canvas.

Figure A14: Mosher, Sarah. *Persistence*. 2020. Fabric, paper, and acrylic on wood.

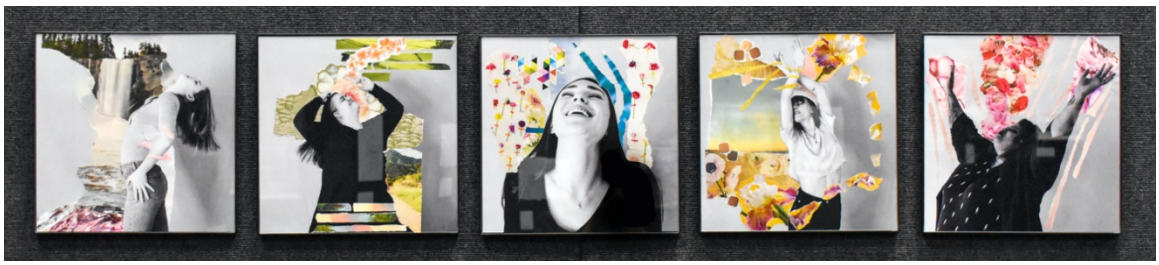

Figure A15: Paine, Amy. *Moving Through It*. 2020. Five 12”x12” frames, photography and magazines.

Figure A16: Pleau, John. *San Juan Islands Journey*. 2020. Nine 8”x10” images, photo prints.

Figure A17: Rahaeuser, Sarah. *New Beginning*. 2020. 10”x8”, mixed media on paper.

Figure A18: Smith, Logan. *Daytime Drive*. 2020. Digital animation.

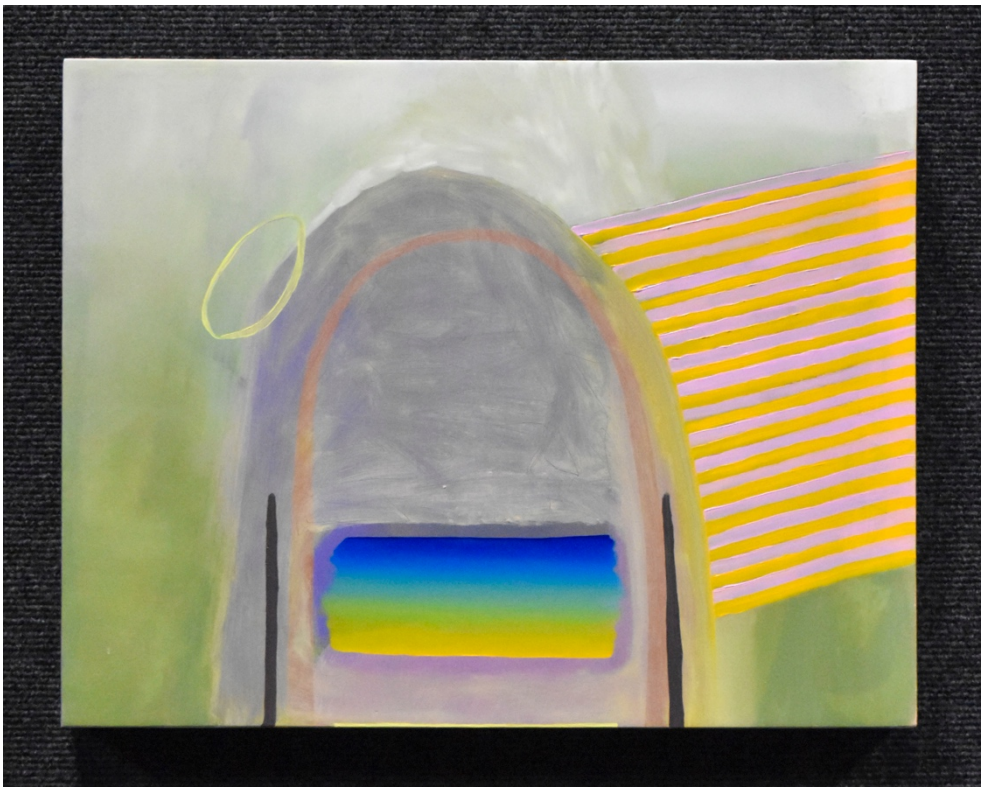

Figure A19: Snow, Maia. *Where the moon goes*. 2020. 17”x13”, oil on panel.

Figure A20: Ulrich, Annie. *The Pair*. 2020. 24”x36”, acrylic on canvas.

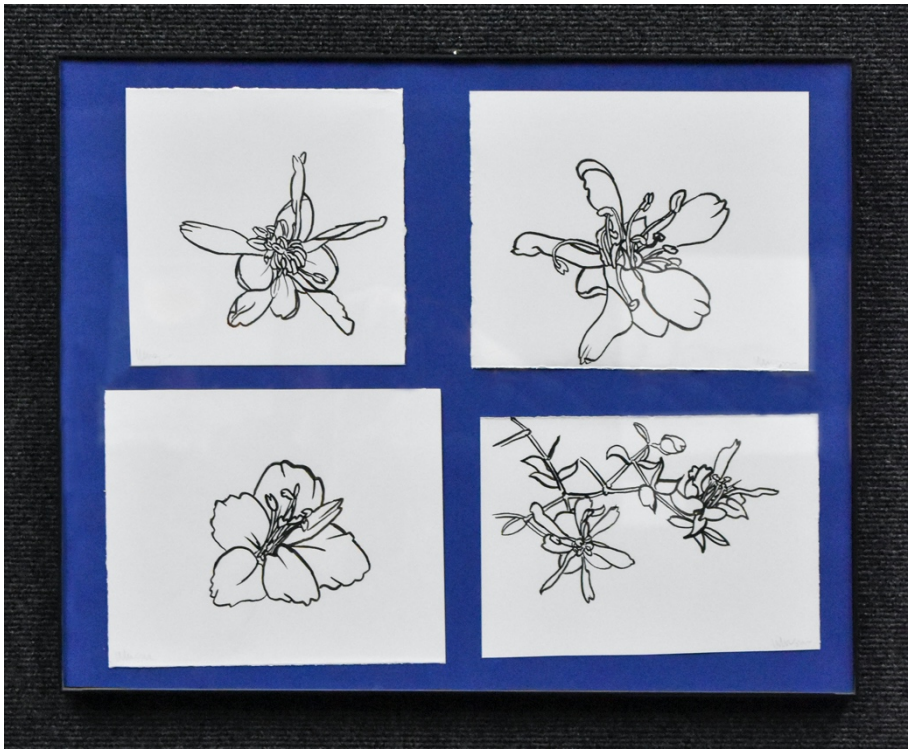

Figure A21: Williamson, Megan. 2020. *Creosote Flowers (tattoo studies)*. 16”x20”, sumi ink on paper.

Figure A22: Yep, Javier. *Solitude*. 2020. 18”x12”, digital painting.

APPENDIX B: EXHIBITION IMAGES

Figure B1: Exhibition view facing West

Figure B2: Exhibition view facing East (1)

Figure B3: Exhibition view facing East (2)

APPENDIX C: EXHIBITION LOBBY INFORMATION

What does music look like?

Hearing As Seeing is an art exhibition that explores the relationship between what we see and what we hear. Inspired by a single song composed by UT D.M.A. graduate Michael Zapruder, these artists from Austin, Seattle, Chicago, and around the country have each created visual artwork in response. The music playing in the exhibition space is Zapruder's song: listen as you survey the work and contemplate the connections between the visuals and the auditory composition.

What was the process?

This is the information the artists were given in the call for art:

"This exhibition will explore visual art inspired by sound. I'm looking for you to create a visual artwork in any medium that is inspired in some way by this song. I don't want to give you any more specific instructions than that–just use the song as your "prompt." The pieces will be displayed together with the song playing in the exhibition space, and the audience will be invited to respond to any connections they perceive between the song and the artwork."

The artists were not told the name of the composer or the title of the song in order to prevent the words from affecting their perception of the music itself.

How do we tell the story best?

In Scene Design and Stage Lighting, authors R. Craig Wolf and Dick Block write, "… a designer's training for the theatre is spent learning to interpret the ideas of the playwright… visually, physically or aurally. This can't be overemphasized because it is the basis for all design in the theatre–finding a way to tell the playwright's story." This is a fundamental principle underlying theatre education; our job is to make design choices by reading and interpreting the text.

But it becomes apparent that the text isn't the only thing telling the story. Wolf and Block point out that there are also "… opera, book musicals, and revues, in which music tells part of the story; and ballet and modern dance, in which sight and sound, rather than the spoken word, matter most" (Wolf and Block 2-3). From a theatrical design perspective, this assertion–that music not only contributes to the story but can be even more important than the words–foregrounds the problem of our disparate senses.

How can an auditory element inspire visual designers? How does the composition of a musical score or sound design affect the way we create scenery, costumes, lighting, or media? Is it possible to successfully "translate" music into visuals, and if so, is it even useful to the design process?

This exhibition investigates these questions.

How do we talk about visual art?
How do we talk about music?

balance
blending
color
composition
contrast
counterpoint
dissonance
dynamic
expression
flat
form
imagery
interval
line
measure
mood
motif
movement
ornament
pattern
repetition
rest
rhythm
scale
sequence
shape
sharp
style
theme
tone

What do you think?

Your reaction to the exhibition is the final step of the process. If you would like to share your thoughts, visit **www.tuckergoodman.com/hearingasseeing** and fill out the anonymous survey or leave a comment card.

About the Exhibition

Originally from the Seattle area, curator Tucker Goodman is a Live Design M.F.A. student in scenic design. In his studio artwork, his drawings often evoke a sense of nostalgia for the Pacific Northwest. Tucker can be reached at goodmant@utexas.edu.

Special thanks to Bill Bloodgood, Jason Buchanan, Khristián Méndez, Michael Zapruder, the UT Theatre and Dance Department Staff, and all the artists.

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